



The 4th International Symposium on Primatology and Wildlife Science

(PWS Interium Symposium)

~Toward the Asian Federation for Primatology~

July 21st-22nd, 2015

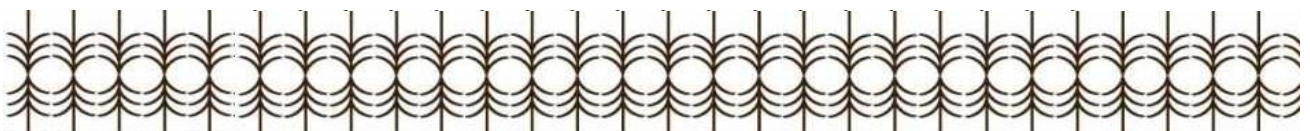


Science Seminar House,
Kyoto University
(North Campus of Yoshida Campus)



<http://www.wildlife-science.org/en/symposium/2015-07.html>

- MEXT “Leading Graduate Program in Primatology and Wildlife Science” (host)
- JSPS Core-to-core program A. Advanced Research Networks “Comparative Cognitive Science Network for understanding the origins of human mind” (co-host)



The 4th International Symposium on Primatology and Wildlife Science (PWS Interim Symposium)
- Toward the Asian Federation for Primatology -
 at Science Seminar House, Kyoto University, Japan

PROGRAM

Day 1 July 21 (Tue)

Time	(min)	Title	Speaker	Affiliation
9:30		Registration		
10:00	(10)	Opening Remark	Tetsuro MATSUZAWA	PWS Program Coordinator
Session 1 : JSPS Core-to-Core Program "Research of Wild chimpanzees in Africa" (1)				Chair: Michio NAKAMURA
10:10 12:10	O-01 (30)	Chimpanzee feeding behaviour and resource competition with local people at Caiquene-Cadique, Guinea-Bissau	Kimberley Jane HOCKINGS	Centre for Research in Anthropology (CRIA-FCSH/UNL), Portugal
	O-02 (30)	Gestural communication in the Budongo chimpanzees	Catherine HOBATER	University of St Andrews, Scotland
	O-03 (30)	Humans as neighbours : behavioral and health consequences for wild chimpanzees in Sebitoli, Uganda	Sabrina KRIEF	Muséum national d'histoire naturelle, France
	O-04 (30)	Potential suitable field station for long-term primate research and conservation activities on Idjwi Island, Eastern Democratic Republic of Congo	Augustin K. BASABOSE	Laboratoire de Primatologie, Centre de Recherche en Sciences Naturelles, RD Congo
12:10-13:30	(80)	Group Photo <Lunch Break>		
Session 2 : JSPS Core-to-Core Program "Research of Wild chimpanzees in Africa" (2)				Chair: Satoshi HIRATA
13:30 15:00	O-05 (15)	Green Corridor Project at Bossou-Nimba, Guinea	Naruki MORIMURA	Wildlife Research Center, Kyoto University
	O-06 (15)	Wild chimpanzees at Kpala use stones in various contexts	Gaku OHASHI	College of Humanites, Chubu University
	O-07 (60)	Chasing After Chimpanzees	William C. MCGREW	University of Cambridge, United Kingdom
15:00-15:30	(30)	<Coffee Break>		
Session 3 : Progress reports by PWS students				Chair: Yuko HATTORI
15:30 17:00	O-08 (15)	Factors regulating steroid hormones in Japanese macaques and Orangutans	Sayuri TAKESHITA (L4)	Primate Research Institute, Kyoto University
	O-09 (15)	Investigating the Vocal Repertoire of Tibetan Macaques and Collaborative Work at the Valley of the Wild Monkeys	Sofi BERNSTEIN (L4)	Primate Research Institute, Kyoto University
	O-10 (10)	Interdepartmental Exchange and Koshima Field Science Course	Duncan WILSON (L3)	Primate Research Institute, Kyoto University
	O-11 (10)	Report of Yankushima Field Science Course	Makiko TAKE (L1)	Primate Research Institute, Kyoto University
	O-12 (10)	Report of Genome science course and my research plan	Natsuko TAJIMA (L1)	Wildlife Research Center, Kyoto University
	O-13 (10)	The education value of zoos: Report on the zoo/museum course	Cécile SARABIAN (L3)	Wildlife Research Center, Kyoto University
	O-14 (10)	Preliminary identification surveys and underwater observation of wild dolphins around Jeju island in Korea.	Kasumi SAKAKIBARA(L3)	Wildlife Research Center, Kyoto University
17:00-19:00		Poster Session		
19:00-20:30		Academic Interaction		

Day 2 July 22 (Wed)

Time	(min)	Title	Speaker	Affiliation
9:00-9:30		Registration		
Session 4 : Poster Award				Chair: Takashi HAYAKAWA
9:30-10:00	(30)	Award Winners		
Session 5 : Toward Asian Federation for Primatology				Chair: Ikuma ADACHI
10:00 12:30	O-15 (30)	Research diversity on primate diversity in Thailand	Suchinda MALAIVIJITNOND	National Primate Research Center of Thailand, Chulalongkorn University, Thailand
	O-16 (30)	Competitive exclusion principle reduces earthworm biodiversity	Bambang SURYOBROTO	Bogor Agricultural University, Indonesia
	O-17 (30)	Good gibbons and evil macaques - A historical review on cognitive features of non-human primates in Chinese traditional culture	Peng ZHANG	Sun Yat-sen University, China
	O-18 (30)	Primatological Research in Sri Lanka: past, present and future prospects	Charmalie NAHALLAGE	Department of Sociology and Anthropology, University of Sri Jayewardenepura, Sri Lanka
	O-18 (30)	Spatial Distribution of Malaysian Primates	Mashhor MANSOR	Malaysia Science University, Malaysia
12:30-13:30	(60)	<Lunch Break>		
Session 6 : Research introduction by PWS members				Chair: Takushi KISHIDA
13:30 15:00	O-19 (30)	How do primates respond to unfairness between third parties?	James R. ANDERSON	Graduate School of Letters, Kyoto University
	O-20 (30)	Fifty-Eight Items: A Universal Language to Assess Primate Personality and Happiness	Alexander WEISS	The University of Edinburgh, Scotland
	O-21 (30)	Conservation Genomics - Applying the Latest DNA Analysis Methods to Wildlife Management	Robert OGDEN	Wildlife Research Center, Kyoto University / Royal Zoological Society of Scotland, Scotland
15:00	(10)	Closing Remark	Tetsuro MATSUZAWA	PWS Program Coordinator

Poster Session (Day 1 17:00-19:00)

	Title	Presenter	Affiliation
P-1	The evolutionary origins of human hygiene: Infection-risk avoidance in chimpanzees and bonobos	Cécile SARABIAN (L3)	Wildlife Research Center, Kyoto University
P-2	Implication of social tolerance in the evolution of cooperation	Morgane ALLANIC (L3)	Primate Research Institute, Kyoto University
P-3	The story of colorblind macaques	Kanthy Arum WIDAYATI	Bogor Agricultural University, Indonesia
P-4	Functional variation of PTC bitter taste receptor in leaf-eating monkey	Laurentia Henrieta PERMITA	Bogor Agricultural University, Indonesia
P-5	Silent bared teeth displays and dominance certainty in captive Rhesus macaques	Kelly FINN	University of California Davis, United States of America
P-6	Endocrinological background of copulatory behavior in postmenopausal female Japanese macaque	Aru TOYODA	Primate Research Institute, Kyoto University
P-7	Host-Parasite Systems Dynamics in Human-Modified Habitats (a research proposal)	Liesbeth FRÍAS (L3)	Primate Research Institute, Kyoto University
P-8	Case report: Cannibalism in wild bonobos at Wamba	Nahoko TOKUYAMA	Primate Research Institute, Kyoto University
P-9	Tibetan macaque Infant Mortality and Field Site Management in the Valley of the Wild Monkeys	Sofi BERNSTEIN (L4)	Primate Research Institute, Kyoto University
P-10	The Rock-Paper-Scissors Game in Chimpanzees (<i>Pan troglodytes</i>)	Jie GAO (L1, fall admission)	Peking University, China
P-11	Genomic basis of baleen whale olfaction: a comparative study of olfactory receptor gene repertoires among cetacean species	Takushi KISHIDA	Wildlife Research Center, Kyoto University
P-12	Abundance, arrangement, and function of structural elements in the chicken promoters	Hideaki ABE	Wildlife Research Center, Kyoto University
P-13	Androgen receptor and monoamine oxidase polymorphism in wild bonobos	Cintia GARAI	Primate Research Institute, Kyoto University
P-14	Habitat use of wild bonobos at Wamba in the Democratic Republic of the Congo: by both remote sensing and ground observation	Saeko TERADA	Nature Conservation Bureau, Ministry of the Environment
P-15	Mother-offspring behavior in wild Bornean orangutans (<i>P. pygmaeus morio</i>) before weaning: implications for development	Renata MENDONÇA	Primate Research Institute, Kyoto University
P-16	Object and Color Categorization in Chimpanzees: Study design and Progress Report	Gabriela Bezerra de MELO DALY	Primate Research Institute, Kyoto University

Plenary Speaker

O-1

**Chimpanzee feeding behaviour and resource competition with local people at
Caiquene-Cadique, Guinea-Bissau**

○ Kimberley Jane HOCKINGS^{1,2,3}, Claudia SOUSA^{1,2} †

¹ Centre for Research in Anthropology (CRIA-FCSH/UNL), Portugal

² Department of Anthropology, Faculdade de Ciencias Sociais e Humanas, Universidade Nova de
Lisboa, Portugal

³ Anthropology Centre for Conservation, Environment and Development, Oxford Brookes
University, UK

† Passed away September 29th 2014

We are in a new epoch, the Anthropocene, and research into nonhuman great ape behaviour must keep pace with the speed at which our species is driving global change. The ways in which great apes modify their feeding strategies in response to human pressures (such as agriculture and forest resource exploitation) is important to assess their ability to cope with changing conditions and to evaluate the potential sustainability of resource competition with humans. Using a case study of chimpanzees (*Pan troglodytes verus*) inhabiting a forest-savannah-mangrove-agricultural mosaic at Caiquene-Cadique, Guinea-Bissau, we provide cross-disciplinary data on human and chimpanzee use of wild and cultivated plants, and discuss the sustainability of resource competition with local people. To ensure that diverse ape populations survive the Anthropocene requires finding ways for humans and apes to coexist and utilise shared resources in shared landscapes.



Plenary Speaker

O-2

Gestural communication in the Budongo chimpanzees.

Catherine HOBATER

University of St Andrews, Scotland

The Budongo forest is located in north-west Uganda, high on the Albertine Rift escarpment above Lake Albert. It comprises around 435km² of dense rain-forest with a rich diversity of flora and fauna including: two species of prosimian, four monkey species, and one great ape, *Pan troglodytes schweinfurthii*. The behaviour of the Budongo chimpanzees was first investigated in 1962 at around the same time as research was starting in the near-by Tanzanian sites of Gombe and Mahale; however, political instability in Uganda prevented the establishment of long-term research. In the late 1980s Professor Vernon Reynolds returned to Budongo and, finding that the forest and its wildlife were in urgent need of conservation, in 1990 he started the habituation of the Sonso chimpanzee community and established a permanent field-station. Now, 25-years later we have been able to accumulate a wealth of knowledge about the behaviour and ecology of these chimpanzees. Once a rich source of mahogany, today the forest is predominantly secondary growth with a particularly high density of ficus species that supports a large population of chimpanzees. Recent research on Sonso chimpanzee behaviour has focused on their social communication and their unusual repertoire of tool use, which seems to be restricted to leaves.



Research methods include long-term observational studies, in combination with innovative field-experiments incorporating vocal play-back and predator models. My own work has focused on the use of their gestural communication. The first long-term systematic study of gesture in the wild has allowed us to demonstrate that they offer chimpanzees a rich and flexible way to communicate specific goals in an intentional manner. We are now looking at how these gestures are integrated within the complete system of communication that includes vocalization and facial expression; as well as comparing gesture use with that in other communities.

An exciting new development of the chimpanzee research in Budongo is the study of the two neighbouring communities of Waibira and Kamira. In Kamira we are employing remote monitoring and surveying methods such as camera-traps. In Waibira we have habituated the chimpanzees to direct observation and are now able to address new questions such as intercommunity social interactions, and the study of female behaviour during immigration. As well as long-term behavioural studies work in Budongo has also focused on conservation - with the chimpanzees acting as a crucial flag-ship species. A particular challenge is the widespread use of hunting snares that, while not intended for the chimpanzees, frequently trap and maim. Here work focuses on community education and the provision of alternative resources.

Plenary Speaker

O-3

**Humans as neighbours : behavioral and health consequences for wild chimpanzees
in Sebitoli, Uganda**

Sabrina KRIEF

Muséum national d'histoire naturelle, France

In a rapidly changing landscape highly impacted by anthropogenic activities, the great apes are facing new challenges to coexist with humans. We hypothesized that behavioural adjustments may occur in wild chimpanzees inhabiting encroached territories. We observed wild chimpanzees in Sebitoli site, in the Northern part of Kibale national park, in Uganda. Their home range is a fragmented habitat, partly in regeneration, surrounded by tea and eucalyptus plantations, as well as gardens. Inside the forest, an asphalted highway cuts through the park and their territory. Chimpanzees demonstrated behaviors attesting they took into account risky situations. They prevent the risk of detection by human guarding their field by engaging in nocturnal crop-raiding. Before crossing the road, they look both sides and check on vulnerable conspecific while crossing. However, if habitat destruction may have promoted behavioural adjustments, at least 10% of the Sebitoli chimpanzee community present a characteristic facial phenotype with flattened nose, reduced nostrils and concave mid-face. In addition to this facial dysplasia, some chimpanzees suffer of other congenital anomalies, such as cleft lip, patches of depigmented hairs and limb defects. The possibility that environmental pollution from pesticides used in neighbouring plantation contribute to their etiology is currently under investigation. Such threats to wildlife life induced by human activities have to be considered and efforts should be deployed to reduced them in the future.



Plenary Speaker

O-4

Potential suitable field station for long-term primate research and conservation activities on Idjwi Island, Eastern Democratic Republic of Congo

Augustin K. BASABOSE

Laboratoire de Primatologie, Centre de Recherche en Sciences Naturelles, RD Congo

The Democratic Republic of Congo (DRC) is the first inland African country with the most non-human primate species, counting more than sixty-five different known taxa. It is the fourth richest country worldwide in non-human primate species diversity behind Brazil, Madagascar and Indonesia. Despite its well acknowledged richness in primate species, the country has a very limited number of professional Congolese primatologists. Likewise, there is no country-based professional institution solely dedicated to primate research and conservation. In an attempt to fill this gap, we established the Primate Expertise (PEX), a country based organization dedicated to primate research and conservation.



Primate Expertise aims to inspire young generation of Congolese primatologists to take the leadership in research and conservation to ensure long-term survival of the rich primate biodiversity of the Democratic Republic of Congo.

To achieve this ultimate goal, PEX has recently carried out a scope survey on Idjwi Island to identify a suitable field station including an emblematic key primate species and establish long-term research and conservation activities.

Located in Lake Kivu, Eastern of the Democratic Republic of Congo, Idjwi is the second largest island (310 sq. km) of the inland African continent. It is home to several endemic species, including the endangered blue monkey subspecies (*Cercopithecus mitis schoutedeni*). Population of blue monkey inhabiting Idjwi Island (known to belong to Schoutedeni subspecies) may have separated from other *Cercopithecus mitis* groups of the mainland around 20,000 years ago during the formation of Lake Kivu and has therefore evolved separately on this island. Due to the large scale deforestation happening on Idjwi Island, it was once believed that this endemic subspecies was possibly extinct (John Hart, 2008). During my last trip at Idjwi, I observed a small population of blue monkey (c.a. 50 individuals) living in a tiny forest fragment. There is still a number of such small remnant fragmented forests on the Island where presence of blue monkey has been confirmed.

Effort should be made to restore a viable population of *Cercopithecus mitis schoutedeni* on the island. To achieve this, there is a need to analyse ongoing threats to the long-term survival of *Cercopithecus mitis schoutedeni* and develop recommendations to halt all activities that negatively impact the primate population. This has to be done in collaboration with the local community. Through a participatory stakeholders' consultation, PEX facilitated to establish a local-based conservation initiative willing to support primate research and conservation programs at Idjwi Island.

Plenary Speaker

O-7

Chasing After Chimpanzees

William C McGREW

University of Cambridge, United Kingdom

The scientific study of wild chimpanzees is now in its second half-century, and accordingly some stocktaking may be in order. Reviewing decades of work published in thousands of papers and hundreds of books on *Pan troglodytes* is a daunting task. Here I will focus on ethology and ecology, especially as practiced by the pioneering generation, but carried on by their descendants, from East and West. There is variation to be explained, such as asking why researchers from North America came mostly from anthropology, from Europe mostly from zoology, from United Kingdom mostly from psychology, and from Japan from all three. Technological progress has been immensely enabling: consider compass, aerial photographs, aerogrammes, and calculators versus GPS, satellite imagery, email, and personal computers! Key figures and field sites have provided visionary leadership and varied opportunities, and their influence persists. I will attempt to chart the progress of ‘chimpology’ using an analogy to the development of anthropology, through successive stages of natural history, ethnography, and ethnology. The first was a period of exploratory description, anecdote, and not a little serendipity; the second comprised systematic and comparative observation, field experimentation, and quantitative rigor; the third moved on to theory-driven and focussed probing, hypothesis testing, and modelling and sophisticated statistical analyses. I will try to give telling but admittedly selective examples of all of these. Finally, I will conclude with an assessment of the current state of play, such as the emergence of primate archaeology, and suggest some topics for future study, such as the use of new technology to revisit basic problems, such as next-generation sequencing to tackle dietary niches. Thus, there will be some old wine in new bottles, and some new wine in old bottles.



Plenary Speaker

O-15

Research diversity on primate diversity in Thailand

Suchinda MALAIVIJITNOND

National Primate Research Center of Thailand, Chulalongkorn University, Thailand

Thailand has high diversity of primate species from prosimians to small apes. At present, at least 16 species of primates have been reported; Sunda slow loris (*Nycticebus coucang*), Bengal slow loris (*N. bengalensis*), banded leaf-monkey (*Presbytis femoralis*), dusky langur (*Trachypithecus obscurus*), slivered langur (*T. cristatus*), Phayre's langur (*T. phayrei*), long-tailed macaque (*Macaca fascicularis*), rhesus macaque (*M. mulatta*), Assamese macaque (*M. assamensis*), stump-tailed macaque (*M. arctoides*), northern pig-tailed macaque (*M. leonina*), southern pig-tailed macaque (*M. nemestrina*), agile gibbon (*Hylobates agilis*), pileated gibbon (*H. pileatus*), white-handed gibbon (*H. lar*), and siamang (*Symphalangus syndactylus*). This high species diversity is due to the geographic position and geography of Thailand that connects Asian continent with insular SE Asia. Thailand is also borders of range between many sister species of primates, for example, Sunda and Bengal slow loris, rhesus and long-tailed macaque, northern and southern pig-tailed macaque, and pileated and white-handed gibbon. The hybrids between the different species have thus been widely assessed. Many fossil primates from variety of geological times and taxa such as *Krabia minuta* and *Siamopithecus* from Eocene to *Khoratopithecus* or *Tarsius* from Miocene were also unearthed. Because of economic development, logging and land-conversion, primates' habitats have been converted to agricultural field and human settlements and the co-existing between primates and humans occur in many locations in Thailand. Interaction between humans and non-human primates, especially human-macaque conflicts, becomes severely. Although research on primates in Thailand is focusing mainly on macaques and gibbons, it covers diverse fields of study: population census and genetics, phylogeography, morphology, physiology, reproductive endocrinology, ecology, socioecology, conservation biology and population control, human-macaque conflict, hybrids, locomotion, and social interactions. Tool using behaviors of long-tailed macaques which have been discovered in Thailand in a past decade also become a focal point of interest for researchers from various fields. Although very few Thai primatologists are counted and vast majority of primate researches are in collaboration with researchers from abroad such as Singapore, Japan, USA, Germany, and UK, the primate research and number of primatologist in Thailand are growing and advancing.



Plenary Speaker

O-16

Competitive exclusion principle reduces earthworm biodiversity

Bambang SURYOBROTO

Bogor Agricultural University, Indonesia

Competitive exclusion principle where complete competitors cannot coexist leads to reduced biodiversity and less energy flux in a community. Conceived by Lotka, Volterra and Gause in early 1900s and later called Gause's Principle, however, this important ecological principle had only been proven in laboratory. In addition, recently it had been shown that the underlying resource competition mechanism results in the coexistence of functionally equivalent species in estuarine ecosystem of phytoplankton. Here we show that the anthropogenic disturbance of natural habitats decreases biodiversity by constraining the availability of resources to make the competing species excluding each other. At the same time, the most frequent land-use change of deforestation into agricultural area brings the opportunist exotic species to fill the leftover niche in support for the exclusion principle. Indonesia experienced the world's second largest annual forest area net loss in 1990–2000 and the third in 2000–2010. The forest of Mount Gede in West Java is undergoing land-use change into mixed and homogenous plantations, and consequently decreasing their soil organic matter. We presumed that this process enhances the conversion of 'limitless' into limited resources and this constraint lowers earthworm abundance and their cocoon density. When the earthworms are incapable of adapting the environmental change, they might expel each other out and the niche left is filled by the species that have better tolerance, most probably the exotic ones. It is predicted that the extent of deforestation into mixed and homogenous plantations reduces biodiversity of the earthworm communities. We identified five native Oriental (*Drawida nepalensis*, *Notoscolex javanica*, *Pheretima pura*-group, *Polypheretima moelleri*, and *Polypheretima sempolensis*) and eighteen exotic earthworms (including *Ocnerodrilus occidentalis* and *Pontoscolex corethrurus*) in Mount Gede. The changing land-use from forest to mixed and homogenous plantations was found, as predicted, to decrease biodiversity shown by the lowering trend of Shannon's diversity index. It left *N. javanica* out as the only native which survived the deforestation, while exotics *O. occidentalis* and *P. corethrurus* thrive to be the eudominant species.



Plenary Speaker

O-17

Good gibbons and evil macaques - A historical review on cognitive features of non-human primates in Chinese traditional culture

Peng ZHANG

Sun Yat-sen University, China

Ancient Chinese has accumulated rich knowledge on non-human primates that are widely distributed in China with written literature and folklore for several thousand years. I used the method of critical text analysis and discourse analysis to make clear when and how ancient Chinese distinguished gibbons from macaques. I divided the progress into four main stages, which include Pre-Shang to Shang Dynasty (before 1046 B.C.), Zhou to Han Dynasty (1046 B.C. – 220 A.D.), Six Dynasties to Song Dynasty (220 – 1279 A.D.) and Yuan to Qing



Dynasties (1279 – 1840 A.D.). I found that China's traditional cognition of gibbons and macaques emphasized the appearance of animals, organoleptic performance or even whether their behaviors were 'moral' or not. They described them as human-like animals by ethical standards but ignored the species itself. This kind of cognitive style actually embodies the 'pursuit of goodness', which is the feature of Chinese traditional culture. This study presents some original views on Chinese traditional knowledge of non-human primates.

Keywords: Chinese traditional culture, Non-human primates, Gibbon, Macaque, Cognitive feature

Plenary Speaker

O-18

Primatological Research in Sri Lanka: past, present and future prospects

Charmalie NAHALLAGE

Department of Sociology and Anthropology, University of Sri Jayewardenepura, Sri Lanka

Sri Lanka is home to five species of primates, the toque macaque (*Macaca sinica*), purple face langur (*Semnopithecus vetulus*), grey langur (*Semnopithecus priam*) and two species of slow loris (*Loris tardigradus*, *L. lydekkerianus*). The toque macaque, purple face langur and one species of slender loris (*L. tardigradus*) are endemic. In 2013, the Horton Plains slender loris, feared to be extinct, was sighted after 75 years. The country's diverse ecology, climate and geography provide Sri Lanka with a high degree of biodiversity in flora and fauna.



The primates are no exception, with multiple sub-species described for each of the species listed above.

While detailed records of the country's primates date back to as early as the chronicles of Robert Knox around 1681, modern primatological research began in the 1970's with the pioneering work of western scientists like Wolfgang Dittus, who has focused his long-term research at the archeological site of Polonnaruwa in the North-Central Province, a low elevation woodland forest in the dry zone. The majority of what is known about the behavior and ecology of this species, distributed widely across the island, is based on the efforts from this one site. A few studies have also been conducted on the purple face langur and slender loris. Despite the relatively long history of primate studies in Sri Lanka, only four professional Sri Lankan primatologists are conducting research in the country, and the subject primatology is offered only at the University of Sri Jayewardenepura under Biological Anthropology.

Since 2004, in collaboration with Kyoto University faculty, Michael A Huffman and Yoshi Kawamoto, we have been conducting multidisciplinary research on the macaque and langur species at sites across the island representative of their entire natural distribution. The topics we are investigating include fossil remains, morphology, phylogeography, parasitology, ethnoprimateology and human primate conflict. Current information about the nature and diversity of these primates and their interactions with humans across the country is limited; focusing to date largely on few locations.

Some of our current and future projects include, research on phylogeography of purple-faced leaf langur and gray langur, human primate conflict in agricultural areas, examination of primates bones excavated from prehistorical cave sites and to begin research on simian malaria and primate zoonosis studies. Several undergraduates and our first Masters student are conducting fieldwork at locations across the country.

Plenary Speaker

O-19

Spatial Distribution of Malaysian Primates

Mashhor MANSOR

Malaysia Science University, Malaysia

Based on ecological spatial distribution on 13 states (q-mode) in Malaysia and 13 main primate species (r-mode), several results can be drawn. The two most dominant species are Long Tailed Macaque (*Macaca fascicularis*) and Southern Pig Tailed Macaque (*Macaca nemestrina*). Both species are recorded in all 13 states in Malaysia. Apparently the high populations of Long Tailed Macaca, in some parts, they are considered as pest. Dusky Leaf Monkey (*Trachypithecus obscurus*) found at 11 states in Peninsular Malaysia, but not in Sarawak and Sabah. Silvery Lutung (*Trachypithecus cristatus*) wild populations are recorded at 7 states in Malaysia. The species are not found in the East Coast States of Peninsular Malaysia. Siamang (*Symphalangus syndactylus*) and White Handed Gibbon (*Hylobates lar*). Siamang wild populations are recorded in 6 states, namely Perak, Selangor, Negri Sembilan, Malacca, Pahang and Terengganu. While White-Handed Gibbon populations are recorded in Perak, Selangor, Negri Sembilan, Malacca and Johor. White-Thighed Surili (*Presbytis siamensis*) wild populations are recorded at four states in Peninsular Malaysia. Agile Gibbon (*Hylobates agilis*) wild populations are recorded in 3 northern states of Peninsula Malaysia. Red Leaf Monkey (*Presbytis rubicunda*) and Proboscis Monkey (*Nasalis larvatus*) are recorded only in Sarawak and Sabah. Sarawak Orangutan (*Pongo pygmaeus* var. *pygmaeus*) is only found in Sarawak, while Sabah Orangutan (*Pongo pygmaeus* var. *morio*) is recorded only in Sabah. According to the IUCN Red List, both Orangutan populations in Sarawak and Sabah are included in endangered list. In addition Siamang wild populations are also in the endangered list. Perhaps the main culprits for most these arboreal primates are habitat loss due to oil palm plantations, illegal loggings, encroachment and human developments.



Plenary Speaker

O-20

How do primates respond to unfairness between third parties?

James R. ANDERSON

Graduate School of Letters, Kyoto University

Developmental psychologists are interested in how children develop an understanding of reciprocity in social exchanges and fairness in resource distribution, including social exchanges between third parties. There are few studies of whether nonhuman primates detect reciprocity and violations of reciprocity between third parties. We found that capuchin monkeys discriminate between humans who reciprocate in an exchange of items with others and those who do not. Specifically, monkeys more readily accepted food from reciprocators than non-reciprocators or partial reciprocators. However, when exchange asymmetry was due to one partner starting out with fewer goods, the initially impoverished reciprocator was not discriminated against. When we tested squirrel monkeys in a similar situation, we again found a tendency to avoid accepting food from non-reciprocators, but also a simple preference for the individual who most recently donated items to another. This finding suggests that sensitivity to reciprocity and violations thereof may be based on different psychological mechanisms, with capuchin monkeys but not squirrel monkeys engaging in a form of emotional or affective bookkeeping.



Plenary Speaker

O-20

Fifty-Eight Items: A Universal Language to Assess Primate Personality and Happiness

Alexander WEISS

The University of Edinburgh, Scotland

Historically, a major barrier to carrying out large scale research on the personality and affect of animals has been variability in how researchers measure these characteristics. Complications may also arise when researchers compare species or when researchers come from different cultures. Starting in 1998, I began working with Jim King who had developed ways to measure chimpanzee personality and happiness. His approach was to adapt methods used to overcome these barriers by psychologists who study human behavior and affect. This approach involves using questionnaires. Until 2012, with collaborators at the Kyoto University Wildlife Research Center, the Kyoto University Primate Research Institute, and other institutions, my students and I focused on testing whether these measures are valid measures of behavior and affect, and whether they can be applied across different populations and species. Since then we have spent more time addressing more interesting questions. These have included questions about the development of personality and happiness, more questions about the genetics of personality and happiness, and the association of personality and happiness on longevity. Most recently we have examined the role of personality in the life histories of the wild chimpanzees living in Gombe National Park, a further examination of the genetics of personality, and links between personality and cognitive abilities. For my talk, I will first briefly describe these measures and the work we conducted up to 2012. I will then discuss our recent work on personality development in chimpanzees and orangutans, the genetics of chimpanzee personality, the association between personality and cognition, and how personality influences rank over the lifetime of wild chimpanzees. My talk will conclude with thoughts on how research using these measures may be used to help conservation efforts.



Plenary Speaker

O-21

Conservation Genomics - Applying the Latest DNA Analysis Methods to Wildlife Management

Robert OGDEN^{1,2}

¹Wildlife Research Center, Kyoto University

²Royal Zoological Society of Scotland, Scotland

The application of molecular genetic data to wildlife conservation, known generally as Conservation Genetics, has been an established discipline for over 15 years. During the same period we have entered a new phase in the battle against the illegal wildlife trade, while threats to biodiversity through habitat destruction and over-exploitation continue to increase. How can DNA analysis be applied to address these issues? With the rapid uptake of genomic technologies by the conservation genetic community, are we in a better position to conserve wildlife, or simply to publish more papers?



This paper will focus on the applied uses of genomics in wildlife conservation and will examine whether or not these technologies are actually starting to provide novel data to conservation practitioners. Four short case studies will be presented, examining the use of genetic data across the conservation spectrum from captive management, reintroduction projects and wild population studies to law enforcement and wildlife forensics. Through these examples I hope to provide an overview of how conservation genetics is developing in the genomic era, but also to emphasize the importance of designing and implementing research projects that encompass solid experimental research and address a clearly defined conservation issue, in order to maximise the impact of conservation genetic science.



Introduction to the Program

Leading Graduate Program in Primatology and Wildlife Science (PWS)

While working towards Kyoto University's mission statement of the well-being of the world, the **Leading Graduate Program in Primatology and Wildlife Science (PWS)** strives for many other goals. This program also aims to foster the type of individual that will have the ability to make quick judgement of one's environment, the ability to design the future of global society, while all at the same time nurture a leader-type of individual who will be indispensable for overseas expansion.

(Japanese) primatology originated from Japan, and plays a big role in leading this unique academic study to the world. During the recent years, an emerging field of academic study called "Wildlife Science" that targets endangered species has been on the verge of establishment. **With fieldwork as its foundation, a comprehensive understanding of the human mind, body, life and genome, as well as engaging in hands-on activities that aims for a "the well-being of the world" are all vital to this establishment.**

While being the front line of an academic field, in Japan this field has a shortage of three important careers that is not lacking in the West. **(1) Conservation specialists of international organization(s) such as the United Nations and NGO; (2) Curators of museums, zoos, aquariums, and the like, as well as one that can develop and/or expand a museum or zoo as a "field museum" in a specific habitat; and (3) Outreach workers that invests a great length of time in outreach activities in a specific countries and societies.** While providing a foundation for new research, education and hands-on experience, this program aims to nurture a global leader that interconnects this academic field and one's accomplishments.

For further details on the program, please refer to our HP (<http://www.wildlife-science.org/>)



1

Conservation specialists of international organization(s) such as the United Nations and NGO

Significant international contributions: Produce an individual that acquires expertise, high linguistic skills, and experience in fieldwork



2

Curator (Zoo, Museum, Aquarium, and the like) (Ph.D. level curator)

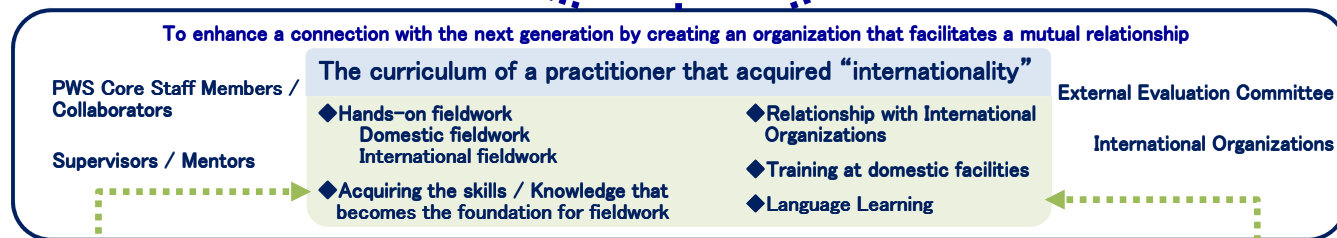
A career path in specialized knowledge, demonstrating one's experiences, and contributing to society



3

Outreach workers investing a great length of time in outreach activities in a specific countries and societies

Expanding Kyoto University's tradition: Identifying the needs through on-site field of view; a leader who can propose significant contributions to Japan

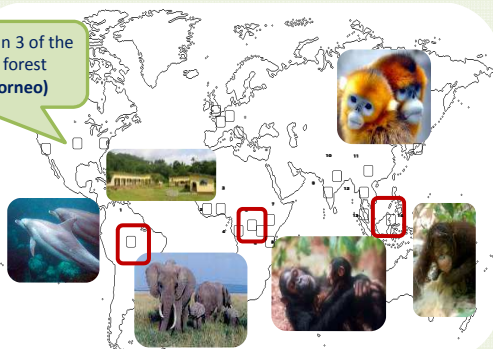


English achievements received by entrance exam, education, and degree through the "Global 30" Project

- ◆ General admission to the Division of Biological Science, Graduate School of Science, Kyoto University (Entrance exam in August, Enrollment in April)
- ◆ International enrollment from Spring and Fall of 2009: entrance exam for foreign students only

Facilities for International Collaborations

We have field stations in 3 of the largest tropical rain forest (Amazon, Congo, Borneo)



Domestic Facilities for Fieldwork Courses



The enrollment process of the Leading Graduate Program in Primatology and Wildlife Science

The Leading Graduate Program in Primatology and Wildlife Science (PWS) is a 5-year program. Students approved to join the PWS program from their first year of Master's program will progress from L1, L2, L3, L4, L5, and will complete the program in 5 years.

The PWS program is completed by students parallel to their existing Kyoto University master's and doctoral programs. Therefore, students do not need to change their supervisor or section/laboratory to join PWS. However, there are **two necessary conditions** for eligibility:

1. A graduate student of Kyoto University:

It is required to become a graduate student of the Division of Biological Science, Graduate School of Science (Kyoto University). However, we are in the process of adjustment for students of other graduate departments to enroll in our program, so please do not hesitate to inquire.

2. To apply and receive approval to enroll into our program:

The process is the same for both Japanese natives and foreign students. Eligible students: 1st year Master's students (will be called L1 student), or a doctoral students (will be called L3 student). Annually, we will disclose the guidelines for applicants in mid-January, and administer the entrance exam in the beginning of March.



Curriculum

Leading Graduate Program in Primatology and Wildlife Science (PWS)

The following contents show the curriculum and schedule that the Leading Graduate Program in Primatology and Wildlife Science offer. Credits obtained through the mandatory courses can also be used as credit for Graduate School of Science, Kyoto University.

NOTE: Course schedules are subject to change. For more information, refer to the following site: <http://www.wildlife-science.org/en/curriculum/>

Please contact the following e-mail address for any questions about the curriculum of PWS: info@wildlife-science.org



MANDATORY COURSES (corresponds to Master course)



◎Interdepartmental Exchange "Inter-lab"

To obtain a general idea of the diverse areas of study in the Division of Biological Science, Kyoto University. Visit the following facilities in succession: Kyoto City Zoo, Center for Ecological Research (KU), Research Reactor Institute (KU), Seto Marine Biological Laboratory (KU), Primate Research Institute (KU), Japan Monkey Centre

Apr. 8th–11th, 2015



◎KOSHIMA Field Science Course

To learn the basis of wildlife research. Conduct observation on wild Japanese macaques (protected species) in Koshima, the birthplace of Japanese primatology. Required to develop independent research topic (e.g., Identification of food items in feces)

WRC: Apr. 25th–May 2nd, 2015
PRI: May 6th–13th, 2015



◎YAKUSHIMA Field Science Course

To learn the basis of wildlife research. Conduct fieldwork on animals/plants in Yakushima, a UNESCO World Heritage Site. English is the official language in this course to facilitate exchange of ideas with international participants, e.g. from Tanzania, India, Malaysia and elsewhere. Samples collected during the course will be used in the following Genome Science Course.

Spring: May 23th–29th, 2015
Fall: Oct. 18th–24th, 2015



◎Genome Science Course

Complementary to the Yakushima Field Science Course. Designed for participants who expect to engage in both laboratory work and fieldwork. Beginner (direct sequencing) and advanced (next generation sequencing) courses are available. English is the official language as in the previous course. The samples from Yakushima will be used to perform various experiments and analyses. Students give a poster presentation at the international symposium scheduled on the last day of this course.

Spring: Jun. 1st–6th, 9th, 2015
Fall: Oct. 26th–30th, Nov. 5th, 2015



◎Zoo/Museum Course

To obtain practical experience in environmental education in the field of primatology/wildlife science as well as to learn to work as a curator, one of the three exit points of the PWS program. This course provides lectures by zoo technicians and practical training as zookeepers.

Place: Japan Monkey Centre

Spring: Jun. 15th–17th, 2015
Fall: February or March, 2016



◎Comparative Cognitive Science Course / Animal Welfare Course

To learn the basis of comparative cognitive science. Understand the procedures in cognitive experimentation and behavioral observation. Work with:

- Chimpanzees & Horses (Primate Research Institute): Comparative Cognitive Science Course
- Bonobos (Kumamoto Sanctuary): Animal Welfare Course

Comparative Cognitive Course: Aug. 24th–26th, 2015
Animal Welfare Course: Schedule being adjusted



◎ SASAGAMINE Field Science Course

(Non-snow season / Snow Season)

To learn survival skills as the basis for future fieldwork. Activities include:

- Wildlife observation
- Climbing Hiuchi Mountain (2,420m)
- Night-time bivouac practicum (improvised encampment)

Place: Kyoto University Sasagamine Hütte (cabin) in Myoko-kogen (plateau at 1,300m elevation), Niigata Prefecture

Non-snow Season:
Summer: Jul. 23th–26th, 2015
Autumn: Oct. 15th–18th, 2015
Snow Season: March



◎Fieldwork (designed by each PWS student)

To develop skills in planning projects aimed at one or more of the three exit points (goals) of the PWS program (i.e., conservation specialization, curation, outreach). Required to design/conduct individual overseas training projects.

Many group fieldworks are designed by Students.

- JIGOKUDANI
- Kids Jamboree @ TOKYO
- SHODOSHIMA



EXAMPLES (Academic Year 2014):

- Jun. 24th – Jul. 2nd, 2014 (L1@Rausu "羅臼", JAPAN) : Study on killer whale's vocalization
- Jun. 24th – Sep. 28th, 2014 (L1@DR Congo): Study on the process of female-dispersal until natal emigration in wild bonobos at Wamba
- Jun. 28th – Jul. 31st, 2014 (L3@Tanzania): Scats analysis of leopards (*Panthera pardus*) in Tanzania
- Jun. 30th – Jul. 29th, 2014 (L3@U.S.A.): Hormonal profile of free-ranging Japanese macaques: effects of environment and social behavior
- Aug. 2nd, 2014 – Jan. 28th, 2015 (L3@China): Study of the vocal repertoire of Tibetan macaques at the Valley of the Wild Monkeys in Mt. Huangshan, China
- Oct. 8th – Nov. 28th, 2014 (L1@Brazil): Ecological study on nine-banded armadillo (*Dasypus novemcinctus*) living in Amazon rainforest
- Nov. 7th, 2014 – Feb. 28th, 2015 (L1@Uganda): The observation of chimpanzees living in Kalinzu Forest, Uganda



LONG-TERM INTERNSHIP TRAININGS (corresponds to Doctoral course)



◎Conservation Biology Internship Training

UN-related organizations and NGOs



◎Animal Welfare Internship Training

Museums, Zoos and Aquariums



◎Social Outreach Internship Training

Outreach activities in specific countries and societies



LIBERAL ARTS SUBJECTS



◎Buddha Seminar

- Lectures from WWF officers, ambassadors, governors, etc.
- Official language: not specified



◎Asura International Seminar

- Lectures from researchers, government officials from the United Kingdom, Congo, Brazil, Butan, etc.
- Official language: English



LANGUAGE LEARNING "Self-Study Paradigm" "Hands-on Experience through Fieldwork"



Students are required to become proficient in at least one foreign language in addition to their native language. English is required for all students whose native language is not English. International students whose native language is English are required to master another language of their choice. Students are also strongly recommended to learn a second foreign language.



The International Symposium on Primatology and Wildlife Science



- The 1st: Mar. 06–08, 2013
- The 2nd: Aug. 29–30, 2014
- The 3rd: Mar. 05–08, 2015
- The 4th: Jul. 21–22, 2015
- The 5th: Mar. 03–06, 2016 (TBA)



LEADING GRADUATE PROGRAM
— IN —
Primatology and Wildlife Science
KYOTO UNIVERSITY JAPAN