

**Investigating Orangutan Cultures:
ORANGUTANS COMPARED 2002 Workshop**

By Michele Y. Merrill

Humans possess an apparently infinite capacity for cultural innovation. From the performance of intricate ceremonies to the design of complex microprocessors, human ingenuity has been channeled and diffracted through social learning into myriad distinct cultures. What were the precursors to our capacity for such behavioral diversity? What would a more simple “culture” look like? Primatologists have investigated these topics for decades, but only in the last few years has a clear picture of cultural diversity in another species begun to emerge.

While other primates clearly lack the sophistication and meaning found in human cultures, recent studies show remarkable behavioral diversity in chimpanzee populations that can only be explained by social learning. Chimpanzees and humans shared a common ancestor quite recently, and the social complexity and tool-making of chimpanzees is well-known, so simple chimpanzee “cultures” may not be surprising. But orangutans? *Pongo pygmaeus*, the red apes of Borneo and Sumatra, are better known as quiet loners than social innovators. Our common ancestor with orangutans is not half so recent as chimpanzees. Who would expect to find orangutan cultures?

This February, researchers representing all long-term orangutan field sites gathered to discuss and compare orangutan behavior during a remarkably successful and productive workshop. Carel P. van Schaik convened this event as an efficient and exciting way to investigate orangutan cultures. Among the twenty-four participants were: David Horr Agee, one of the pioneers of orangutan field research; Akira Suzuki, who has studied orangutans in Malaysian Borneo for nearly twenty years; Suci Utami Atmoko, Indonesia's premier orangutan researcher; Cheryl Knott, whose work at Gunung Palung has received repeated support from the Leakey Foundation; and Biruté Galdikas, who started her fieldwork at the instigation of Louis Leakey and whose exceptional career includes over three decades of work with the orangutans of Indonesian Borneo. Dr. Christophe Boesch provided useful feedback during the workshop based on his studies of chimpanzee cultural complexity.

In an atmosphere of collegiality and genuine teamwork, discoveries multiplied quickly. I presented video from my research at Suaq Balimbing and Ketambe (Sumatra), along with video provided by Dr. Knott, as a means of illustrating behavioral variants in wild orangutans. Participants also watched field videos brought by Anne Russon, Dr. Agee and Dr. Suzuki. The video clips triggered lively discussion that led to the identification of several new cultural variants. During presentations by representatives from each site, we compiled a matrix of socio-ecological data and behavioral repertoires.

Over three intense days the workshop produced a focused image of orangutan cultural variation. Some behaviors expected to show variation between populations, such as building nest covers against the rain, turned out to be universal among well-studied orangutan populations. Some orangutan behaviors were found only at one site, like the orangutans at Kutai using leaves to wipe their chins after eating fruits dripping with latex (the same fruits are eaten elsewhere, and there are always leaves available, but nowhere else do orangutans use leaves as napkins). Perhaps most interesting were behaviors where the details varied between sites. The kiss-squeak vocalization provides an intriguing example. While all researchers have observed orangutans giving kiss-squeaks, at one site (Ketambe) orangutans commonly

put a hand in front of their face while kiss-squeaking, and at another (Cabang Panti) the orangutans often kiss-squeak while holding a handful of leaves near their face, then drop the leaves.

The researchers also discussed social and ecological data, based on over 200,000 combined hours of orangutan focal observations. There were many similarities across all sites; the average active day length was 600-675 minutes, and females give birth only once every seven to nine years at every site with long-term records. There are some consistent differences between Bornean (*P.p. pygmaeus*) and Sumatran (*P.p. abelii*) orangutans. One apparent difference is that juveniles on Borneo spend more time with their mother after the birth of a new sibling than those on Sumatra. Other socio-ecological measures vary between sites. Ongoing analysis should reveal the main determinants of this variation.

In assessing socio-ecological variables, participants perceived the need for standardization of definitions and methods in data collection and analysis. Helen Murrough-Bernard and Simon Husson presented standardized definitions and procedures for all orangutan field researchers to consider. Dr. Van Schaik proposed simple measures of forest productivity for comparisons. Ian Singleton discussed methods for determining home ranges and population densities. Dr. Van Schaik and I recommended that all field projects incorporate videotaping to improve investigations of subtle behavioral variations. Gwendolyn Beaver posted these standardized methods and definitions on the Orangutan Network website (www.orangutannetwork.net) to facilitate inter-site comparisons for future orangutan research projects. All workshop participants agree that ongoing discussion and collaborative research between sites is essential to a better understanding of wild orangutans.

Sadly, the future of wild orangutans remains imperiled. Dr. Van Schaik noted that this workshop resembled a salvage operation, retrieving what information is available from some populations no longer accessible to researchers. Suaq Balimbing, the only site where orangutans were regularly observed using feeding tools, was pillaged by illegal loggers and then closed due to political unrest in 1999. Most orangutan research sites on Sumatra are in similar jeopardy. Several of the earliest orangutan field research sites on Borneo have been clear-cut. Others are threatened by mining operations and forest fires.

Each study of wild orangutans has unveiled a behavioral repertoire unique to that population. It is hard to estimate how many unstudied orangutan cultures have already been lost, and harder still to contemplate how many may be lost in the coming years. Hopefully the energy, compassion and spirit of cooperation in evidence at the *Orangutans Compared* workshop can also be channeled into efforts for orangutan habitat conservation.

Michelle Y Merrill is finishing her dissertation on orangutan cultures and tool use for her PhD in biological anthropology and anatomy at Duke University. Her field research was funded by the L.S.B. Leakey Foundation and the National Science Foundation.

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