

FIRST SIGHTING OF BORNEAN ORANGUTAN TWINS IN THE WILD

Benoit Goossens^{1,2*} Mohd Daisah Kapar³, Suhailie Kahar⁴, and Marc Ancrenaz³

¹ Danau Girang Field Centre, c/o Sabah Wildlife Department, Wisma MUIS, 88100 Kota Kinabalu, Sabah, Malaysia. E-mail: goossensbr@cardiff.ac.uk

² Cardiff University, Cardiff School of Biosciences, Biomedical Sciences Building, Museum Avenue, Cardiff CF10 3AX, UK. E-mail: goossensbr@cardiff.ac.uk

³ Kinabatangan Orangutan Conservation Project, PO Box 3109, 90734 Sandakan, Sabah, Malaysia. E-mail: marc.ancrenaz@yahoo.com

⁴ Red Ape Encounters, PO Box 3109, 90734 Sandakan, Sabah, Malaysia.

* Corresponding author

ABSTRACT

Twinning is a rare event in great apes, and has never been reported in wild orangutans to date. In this paper, we report the first sighting of Bornean Orangutan (*Pongo pygmaeus*) twins in the wild. In October 2007, we observed a female Northeast Bornean Orangutan (*P. pygmaeus morio*) carrying two young twins aged four to six months old along the Kinabatangan River, Sabah, Malaysia. The same family unit (adult female and twins) was observed in November 2009, at the same location, indicating that the two offspring survived the first 2.5 years of their life. They appeared very healthy suggesting that the mother was able to care for two offspring over this period.

Keywords: *Pongo pygmaeus morio*, Borneo, Kinabatangan, reproduction, twinning

INTRODUCTION

In captivity, twinning is a rare event with orangutan (*Pongo* spp.): from a sample of 626 orangutan pregnancies recorded in ISIS and the Orangutan Studybook between 1968 and 1985, Seal *et al.* (1985) reported 11 pairs of twins or 1.1% of the sample size (see also Geissmann, 1989 for a review). This rate is similar in other hominids (great apes and humans alike). The first-ever twin birth in captivity took place in 1968 at Woodland Park Zoo, in Seattle, Washington (Heinrichs & Dillingham, 1970), and the twins were still alive 40 years later (The Seattle Times 24 February 2008: http://seattletimes.nwsourc.com/html/localnews/2004197844_orangs24m.html). In 1985, an orangutan gave birth to twins at the Audubon Zoo in New Orleans. More recently, in December 2003, non-identical orangutan twins were born at a wildlife park in Florida – the first recorded captive twin birth for almost 20 years. Taxonomic information is unavailable either for these captive-born twins or their parents. Furthermore, Bornean and Sumatran orangutans in American zoos were rather mixed at that time.

Only single infants have been observed with wild orangutans (Markham, 1995). In this paper, we report the first sighting of twins of Bornean Orangutan *Pongo*

pygmaeus (Linnaeus), and specifically of Northeast Bornean Orangutan *P. pygmaeus morio* (Owen) in the wild.

METHODS

Observations were all from a boat while cruising along the Kinabatangan River in search of primates close to the study site of the Kinabatangan Orangutan Conservation Project (KOCP). The first observations were recorded by BG on 23 October 2007 and three days later by MDK on 26 October 2007. The orangutans were observed in a fig tree (*Ficus racemosa* L.) located on the edge of the river in Lot 1 of the Lower Kinabatangan Wildlife Sanctuary (LKWS: N5°33'01.44", E118°17'17.45"). Pictures were taken by Mr Jorge Camilo Valenzuela, a professional photographer, who was accompanying BG. This female and her twins have been subsequently reported to KOCP researchers on a regular basis by various sources (tourists, tour guides, villagers). On 15 November 2009, MDK and SK spotted at the same location the same adult female with a pair of young infants aged between 2.5 and 3 years old.

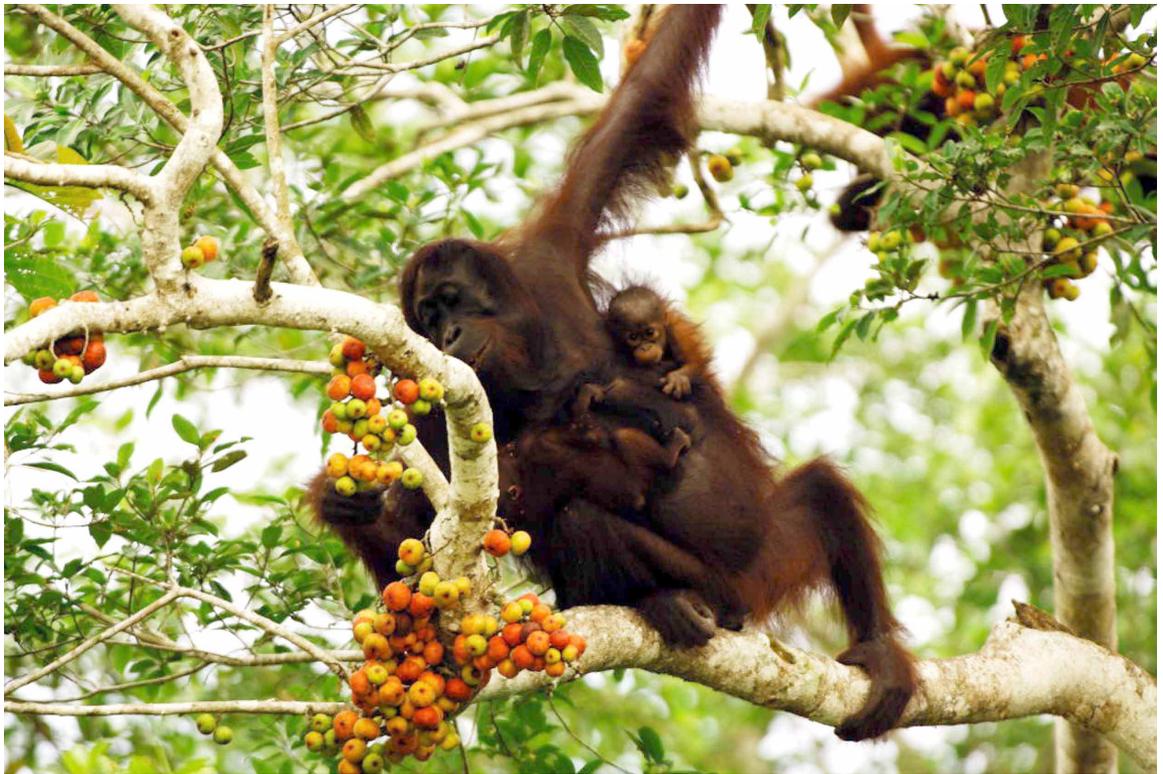


Fig. 1. Picture of a wild female Northeast Bornean Orangutan and her twins holding on to her chest (copyright: Jorge Camilo Valenzuela; courtesy: Benoit Goossens)

RESULTS AND DISCUSSION

On the first day of sighting, BG observed a total of four orangutans in the same fig tree: one adult female with two babies of equal size clinging to her (see Fig. 1), accompanied by one adolescent (7 to 8 years old) only a few metres away from the trio. We assume that this adolescent was the older offspring of the same female (Goossens *et al.*, 2006). During the first two sightings, the twin babies were holding on tightly to both sides of the female's chest while the mother was feeding on figs or moving in the tree. The babies were observed suckling several times at this time. Based on photographs, we estimated the age of the twins to be between four and six months. Two years later, the same female was observed again with two juveniles of identical age (less than three years old). No other female was observed in the area, suggesting that the female was the mother of both of the two juveniles. The two juveniles were observed playing with each other, and interacting with the mother. They appeared very healthy.

This is the first reported sighting of orangutan twins in the wild. However, the absence of any records of orangutan twins in the wild does not mean that it has not happened before. It may be that orangutans in the

wild have had miscarriages when carrying twins, as recorded three times amongst nine sets of orangutan twins in captivity (Seal *et al.*, 1985). It is also possible that one of the twins often dies shortly after birth, as perinatal mortality is reported to be higher with primate twins compared to singletons (Bond & Block, 1982). Galdikas reported on her blog (<http://drbirute.com/2009/11/22/orangutan-twins-at-camp-leakey/>) that on 15 October 2009 an orangutan female gave birth at Camp Leakey in Tanjung Puting National Park, Central Indonesian Borneo, but one of the infants died shortly afterwards.

Moreover, holding two babies simultaneously may be challenging for the mother since mutual interference between the two newborn infants can alter their natural ventro-ventral clinging position. As reported in wild chimpanzees (Goodall, 1979), there is a risk of the babies losing their grip on the mother, and being killed as a result of falling, especially as orangutans are so highly arboreal. Difficulties in carrying twins seem only to last for a short time in most primate species, but can lead to the death or abandonment of one twin by the mother as reported in wild mountain gorillas (Watts & Huts, 1988). With a pair of twins observed in 2007,

and subsequently in 2009, it appears that this female had overcome this issue. On the other hand, the female must look for larger quantities of food to produce the extra milk necessary to feed the pair. In one pair of captive orangutan twins, one baby died four weeks after birth due to insufficient milk production by the mother, even though the female had easy access to food (Lang, 1973). Malnutrition and subsequent death of one twin was also observed in wild chimpanzees (Goodall, 1979). Here, the second observation of the mother and twins aged about three years old, appearing very healthy, show that this wild orangutan female had been able to produce enough milk to feed them for almost three years. During the last encounter, the twins were observed feeding directly on *Ficus* leaves, indicating that the weaning process had been initiated. Although we can confirm that the twins have survived their childhood stage, it is still not known whether they will survive until they become fully independent, which happens between six and nine years of age (Markham, 1995; Delgado & van Schaik, 2000).

ACKNOWLEDGMENTS

We thank the Economic Planning Unit for permission to conduct research in Sabah and the Sabah Wildlife Department and Dr Laurentius Ambu for permission to conduct research in the Lower Kinabatangan Wildlife Sanctuary. We also extend our thanks to our financial partners: Darwin Initiative for the Survival of Species (Grant no. 14/014, DEFRA, UK); zoos of Pittsburgh, Cleveland, Columbus, Philadelphia, Phoenix, Oregon, Saint Louis, Brevard, Houston, Woodland Park, Sea World & Bush Gardens, Chester, Apenheul, Beauval and La Palmyre; Abraham, World Women Work, Shared Earth, Margot Marsh and Arcus Foundations; USFWS Great Ape Conservation Fund, Australian Orang-utan Project, Orangutan Conservancy, Stichting BOS, Utah and North England Zoological Societies, and LEAP. We finally thank Jorge Camilo Valenzuela for kindly allowing us to use his photograph for scientific and educational purposes.

REFERENCES

- Bond, M.R. and Block, J.A. 1982. Growth and development of twin orangutans. *International Zoo Yearbook* **22**: 256-261.
- Delgado, R. and van Schaik, C.P. 2000. The behavioural ecology and conservation of the orangutan (*Pongo pygmaeus*): a tale of two islands. *Evolutionary Anthropology* **9**: 201-208.
- Geissmann, T. 1989. *Multiple Births in Catarrhine Monkeys and Apes: A Review*. II Sedicesimo, Firenze, Italy.
- Goodall, J. 1979. Life and death at Gombe. *National Geographic* **155**: 591-621.
- Goossens, B., Setchell, J.M., James, S.S., Funk, S.M., Chikhi, L., Abulani, A., Ancrenaz, M., Lackman-Ancrenaz, I. and Bruford, M.W. 2006. Philopatry and reproductive success in Bornean orangutans (*Pongo pygmaeus*). *Molecular Ecology* **15**: 2577-2588.
- Heinrichs, W.L. and Dillingham, L.A. 1970. Bornean orangutan twins born in captivity. *Folia Primatologica* **13**: 150-154.
- Lang, E.M. 1973. Zwillinge bei unsern Orangutans. *Zoilli* **31**: 14-15.
- Markham, R. 1995. Doing it naturally: reproduction in captive orangutans (*Pongo pygmaeus*). In: *The Neglected Ape*, R.D. Nadler, B.F.M. Galdikas, L.K. Sheeran and N. Rosen (eds.), pp. 273-278. Plenum Press, New York, USA.
- Seal, U., Flesness N. and Foose, T. 1985. Neonatal and infant mortality in captive-born great apes. In: *Clinical Management of Infant Great Apes*, C.E. Graham and J.A. Bowen (eds.), pp. 193-203. Alan R. Liss. Inc., New York, USA.
- Watts, D.P. and Huts, J. 1988. Twin birth in wild mountain gorillas. *Oryx* **22**: 5-6.