NAT. HIST. BULL. SIAM SOC. 43: 369–373 , 1995

PREDATION ON BARKING DEER BY RETICULATED PYTHON AND DHOLES IN KHAO YAI NATIONAL PARK

Between 0900 h and 0930 h on 1 June 1995, while following a group of gibbons around 1 km west of park headquarters, I heard the rustling of leaves and a high pitched vocalisation close by. As I approached I saw a large Reticulated Python *(Python reticulata)* lying in a small clearing. It had already swallowed the head and the neck of a female, probably fully grown Barking Deer *(Muntiacus muntjak)*. A group of Pig-tailed Macaques *(Macaca nemestrina)* were foraging in the area, some not far from the python and its prey.

I left the python at 1000 h to get my camera and returned 50 minutes later. The snake had not changed position but had swallowed more of its prey (Fig. 1). The macaques were still foraging in the area. Several macaques, which apparently had surrounded the snake, saw me and fled. However, a young male, seemingly unafraid of my presence, remained and finally approached to within 10 m of the snake (Fig. 2). The macaque avoided the ground and stayed in the surrounding small trees. It directed displays to the snake several times by shaking the branches of the small tree it sat in and by giving grunt-like calls. At the same time the gibbons had not left the area but stayed in the higher canopy. They alarm-called but whether this was a reaction to the python was unclear. They finally started to duet, a calling behaviour typically performed by paired gibbons (e.g. RAEMAEKERS ET AL., 1984). Duetting often starts spontaneously but can also be triggered by the calls of neighbouring groups or by the alarm calls of other animals such as deer and squirrels or other kinds of disturbance (pers. observ.).

The macaques eventually left the area around 1115 h. At 1129 h, four tourists approached the site on Nature Trail No. 6 and started to take pictures, using a flash. At that time, the python had swallowed approximately a third of the body of the deer. At 1143 h the python abruptly released its prey (Fig. 3) and retreated quickly into the undergrowth. I estimated the python to be at least 6 meters long. The deer was covered with saliva of the snake and on the head and neck showed several small haematoma-like spots (Fig. 4).

On June 2 and 3 I came back to the site several times while observing the gibbons. The deer still remained without any sign of disturbance and was covered with maggots. At 0931 h on June 3 I heard loud high-pitched vocalisations from the direction of the carcass. I approached and saw a group of approximately 10 to 15 Dholes or Asian Wild Dogs *(Cuon alpinus)*. They gave high-pitched sounds while tearing apart the carrion. Two dogs growled loudly while fighting over the same piece of meat. The area was fairly open and while still scavenging the Dholes soon detected me. They fled almost immediately; however, after a short time a few animals returned, probably for some remains of carrion before they finally retreated from the area. One dog spotted me and growled twice at me before it left, following the rest of the group. The carcass of the deer was almost completely gone; all that I could find was the pelvis bone and two ribs.

Dholes have been seen in the study area before (TREESUCON, 1984; RAEMAEKERS & RAEMAEKERS, 1990: 100; W. Brockelman, pers. comm.; pers. observ.). These medium-sized dogs live and hunt in packs of 6 to 20 animals and prey on small mammals and large

herbivores like Barking Deer, Sambar Deer *(Cervus unicolor)* or even Gaur *(Bos Gaurus)* (LEEKAGUL & MCNEELY, 1977; Johnsingh, 1983). These large ungulates are hunted cooperatively, and Dholes have also been reported to scavenge on their own kills as well as on those of other large predators like tigers *(Panthera tigris)* and leopards *(Panthera pardus)* (JOHNSINGH, 1983; but see LEEKAGUL & MCNEELY, 1977). The Dholes detected the decaying but still intact Barking Deer most probably by scent; Dholes have a highly developed sense of smell (JOHNSINGH, 1983).

There are two possible explanations for why the python did not completely swallow the Barking Deer. One, the snake might have felt disturbed by human presence. On other occasions however, I have observed that pythons appear to be little disturbed by humans or by being photographed, even with a flash. Furthermore, the release was not an immediate reaction to the approaching humans or the flash of the camera, but instead the python continued to swallow more of its prey before it finally let go of it. The second and probably more likely reason is that the python simply could not swallow the relative large prey. This possibility was later supported by Mr. Uthorn Wangruamklang of the Snake Farm in Bangkok to whom I showed the photos. Swallowing the head, neck and chest was relatively easy, but the python appeared to have more difficulty with the larger abdominal section of the deer. The snake repeatedly wrapped its body around the abdomen and squeezed it very tightly which pushed the intestines down between the hindquarters. Swallowing the abdomen was very slow and difficult; each time the python made swallowing movements the deer started slipping out again.

The behaviour of the macaques was interesting in that they might have reacted differently to a python without a prey to swallow. One would expect primates to be very cautious and perhaps flee the area since a python is a potential predator. In contrast to gibbons which are strictly arboreal, the macaques travel generally on the ground or at average heights of 5 m (RODMAN, 1978; MACKINNON & MACKINNON, 1980). In fact, most members of the troop kept away from the snake but this could have been also due to my presence. Nevertheless the young male which approached and displayed to the python seemed to be very curious and apparently fascinated by the sight of the reptile; it did not take too much notice of me. The macaques might have been somewhat habituated towards humans because some troops of Pig-tailed Macaques in Khao Yai National Park come out of the forest and spend part of their day beside and on the roads begging food from passing motorists (pers. observ.).

The reaction of the gibbons towards the python appeared to be more indifferent than that of the macaques but the apes stayed in the high canopy of the surrounding trees. Gibbons are very alert animals and it seems unlikely that they did not detect the python. Gibbons have been observed to react with intense vocalisation to a python in a tree (NEUDENBERGER, 1993). A snake on the ground, however, especially a large Reticulated Python which does not normally hunt prey in trees, might not be such an immediate threat to gibbons.

Figure 1. Python swallowing the head, neck and chest of the Barking Deer.

Figure 2. Young male Pig-tailed Macaques sitting in a small tree above the python.

Figure 3. The python moving away from the deer.

Figure 4. The released deer covered with saliva of the snake.

REFERENCES

JOHNSINGH, A.J.T. 1983. Large Mammalian Prey-Predators in Bandipur. J. Bombay Nat. Hist. Soc. 80: 1–57.

LEEKAGUL, B. AND J.A. MCNEELY. 1977. Mammals of Thailand. Association for Conservation of Wildlife, Bangkok.

MACKINNON, J.R. AND K.S. MACKINNON. 1980. Niche Differentiation in a primate community. Pages 167–190 *in* D.J. Chivers (ed.), Malayan Forest Primates: Ten Years' Study in Tropical Rain Forest. Plenum Press, New York.

NEUDENBERGER, J. 1993. Monogamie als Paarungsystem: Eine Fallstudie am Weißhandgibbon *(Hylobates lar)* im Khao Yai Nationalpark, Thailand. Unpupl. M.Sc. Thesis. Georg–August–Universität, Göttingen.

RAEMAEKERS, J. AND P. RAEMAEKERS. 1990 The Singing Ape. The Siam Society, Bangkok. 142 pp.

RAEMAEKERS, J.J., P.M. RAEMAEKERS AND E.H. HAIMOFF. 1984. Loud calls of the gibbon *(Hylobates lar):* Repertoire, organization, and context. Behaviour 91: 146–189.

RODMAN, P.S. 1978. Diets, Densities, and Distribution of Bornean Primates. Pages 465–478 *in* G.G. Montgomery (ed.), Ecology of Plant Eating Folivores. Smithsonian Institution Press, Washington, D.C.

TREESUCON, U. 1984. Social Development of Young Gibbons *(Hylobates lar)* in Khao Yai National Park, Thailand. Unpubl. M.Sc. Thesis, Mahidol University, Bangkok.

WHITINGTON, C. 1990. Seed Dispersal by White-handed Gibbons *(Hylobates lar)* in Khao Yai National Park, Thailand. Unpubl. M.Sc. Thesis, Mahidol University, Bangkok.

Anouchka R. Nettelbeck
Zoologisches Institut und Museum
Martin–Luther–King–Platz 3
D–20146 Hamburg, FRG