ISSN 1027-2992

CAT news

N° 63 | Spring 2016

SPECIES SURVIVAL COMMISSION

CAT SPECIALIST GROUP

CATnews is the newsletter of the Cat Specialist Group, a component of the Species Survival Commission SSC of the International Union for Conservation of Nature (IUCN). It is published twice a year, and is available to members and the Friends of the Cat Group.

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Original contributions and short notes about wild cats are welcome
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Guidelines for authors are available at www.catsg.org/catnews

CATnews is produced with financial assistance from the Friends of the Cat Group.

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Layout: Christine Breitenmoser
Print: Stämpfli Publikationen AG, Bern, Switzerland

ISSN 1027-2992

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Cover Photo: Chinese mountain cat near Rouergai, Sichuan, China
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Predation of an adult puma by an anaconda in south-eastern Brazil

We report the predation of a puma *Puma concolor* by an adult anaconda *Eunectes murinus* that occurred in south-eastern Brazil. Despite the death of both animals, the incident raises important questions regarding the role they play in their respective niches in the wild.

We report here a natural predation event of an adult female puma by an adult anaconda that occurred in the municipality of Promissão, on the north-western border of São Paulo state, Brazil. The incident was discovered when monitoring an adult female puma through radiotelemetry, as part of a research project on pumas, along the margins of a hydroelectric dam, on the lower Tietê riverbasin. The study is the result of a partnership between the Pró-Carnívoros Institute and the Hydroelectric Power Company AES Tietê, a subsidiary of AES Corp. (SISBIO Licence # 45774-1). The goal of the study is to evaluate the environmental health of the areas under the influence of AES Tietê, using the puma as a conservation tool, through the assessment, evaluation, and monitoring of their population in the study area.

The study animal referred to in this report was an adult female, captured on 5 July 2015, with a weight of 42 kg. The permanent dentition showed teeth in excellent shape, with no excessive wear, and her age was estimated at 4-5 years. After equipped with a GPS/satellite radio collar (Sirtrack, NZ), she was released at the capture site. Until early October, we collected 2,053 locations of this cat, comprising an area of 30 km^2, which suggests she was a resident female used to prey upon a thriving population of capybaras *Hydrochaeris hydrochaeris*, as shown by the prevalence of this species in more than 20,000 wildlife photographs taken by our camera traps (53%, n = 12,215 photos of capybaras).

On 8 October 2015, the radio collar stopped sending locations to the satellite. After discussion with the manufacturer and testing its voltage to discard a possible temporary malfunction, we found it had actually stopped working. On 24 October we sent our field team to check the vicinity of her last coordinates, searching for the VHF signal of the collar. After detecting the VHF signal with a handheld receiver and a directional antenna, our team homed in and found the signal was coming from inside a ditch in a cattail patch, in high grass vegetation within a matrix of sugarcane. As they approached, it became clear that the signal was coming from the water. Assuming at this point that someone had killed the puma and discarded the collar, they waded in, to search for it. To their surprise, they found a large anaconda, measuring 4.20 m and weighing 94 kg (as later verified), in the shallow water (Fig. 1). Apparently, the puma had been swallowed by the anaconda.

Fig. 1. Large anaconda (4.20 m, 94 kg) found at the study site, after swallowing an adult female puma (Photo E. Vilalba).

Fig. 2. Anaconda being weighed by the staff at Bauru Zoological Park, in Bauru, São Paulo, Brazil (Photo E. Moura).

As we needed to recover the radio collar, our field team, under our instruction, carefully captured the anaconda, aiming to keep it under observation in an adequate location until it regurgitated the collar. With a rope, the anaconda was lassoed and lifted onto the back of a pickup truck. During this operation, which lasted approximately 15 minutes, the snake was unusually apathic. Therefore, it was no surprise to find that, unfortunately, the anaconda died after a few minutes. When informed of this, we decided to take it immediately to the Bauru Zoological Park, in the town of Bauru, SP, to conduct a necropsy by qualified veterinarians (Fig. 2). According to the necropsy report, the macroscopic diagnosis showed pulmonary congestion with presence of parasites, oral necrosis, hepatic impairment caused by disruption of the liver, and parasitic tapeworm infestation in the intestine. Thus, it was clear that the ease with which the animal was captured was due to the fact that it was highly debilitated and in state of imminent death.

Macroscopic examination of the carcass revealed multiple injuries, most certainly inflicted during the fight with the puma. We cannot affirm how the meeting between the anaconda and puma started. However, the evidence suggested a significant fight, whereby the felid proved to be a formidable opponent to the reptile. There were several external claw and tooth injuries on the snake, on the head, mouth, along the back and tail, as well as serious internal injuries, including lacerations on the liver (Fig. 3). Although the following is only speculation, it is interesting to note that the anaconda was missing a considerable portion of the tail, from some previous event, which had completely healed. Since this stump sustained several fresh claw and tooth marks, it is possible that the cat mistook it for the head of the snake, during the fight, serving as a distraction that may have given a crucial advantage to the anaconda. Despite its unfortunate end (Fig. 4), the incident raises important questions regarding the natural relationships between these formidable predators, and the role they play in their respective niches in the wild. Anacondas have been reported to prey on large prey, such as capybaras, caiman *Caiman* sp., and even domestic dogs *Canis familiaris*, calves *Bos taurus* and sheep *Ovis aries*, but records like the one we describe here are rare. To our knowledge, this is the first record of an anaconda preying on a top predator like the puma.

Supporting Online Material SOM Figures F1-F3 are available at www.catsg.org.

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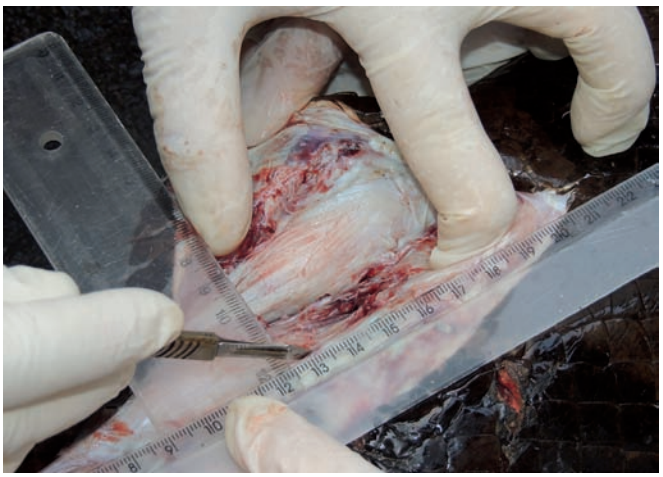

Fig. 3. Claw and tooth mark along the back of the snake were analyzed on the inside of the skin (Photo E. Vilalba).

Fig. 4. Radio collar being recovered from the carcass of an adult female puma inside of a large anaconda (Photo L. Pires).