

Field Report

First record of a short-eared dog scavenging on an armadillo carcass

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Abstract

The short-eared dog *Atelocynus microtis* is a solitary, medium sized canid endemic to South America. It is distributed across lowland Amazon rainforest habitat. Little is known of its ecology and there is limited information available on its diet, with records so far indicating a diet of fruit and live prey. Camera trap videos of a short-eared dog scavenging on the carcass of a nine-banded armadillo *Dasypus novemcinctus* over a period of four days were recorded along the Las Piedras river, Madre de Dios, Peru. This is the first record of scavenging by short-eared dogs.

Introduction

The short-eared dog *Atelocynus microtis* (Slater 1883) is a solitary, medium-sized South American canid of a monotypic genus (Leite-Pitman and Williams 2004, Koester et al. 2008, Leite-Pitman and Williams 2011). It is one of only two canid species known to exist in the Peruvian lowland Amazon rainforest, the other being the bush dog *Speothos venaticus* (Leite-Pitman and Williams 2004). They are the only two species of canids in the world which reside in dense rainforest habitat (Emmons 1997). Short-eared dogs are elusive and infrequently sighted (Leite-Pitman and Williams 2004, Leite-Pitman and Williams 2011), proving difficult to document (Pitman et al. 2003). Available data on the species remains scant (Sillero-Zubiri et al. 2004), with the species currently listed as Near Threatened (Leite-Pitman and Williams 2011).

The diet of the short-eared dog remains relatively undescribed (Leite-Pitman et al. 2008). Whilst skull morphometrics indicate that the species specialises in small vertebrates (Slater et al. 2009) it has also been described as omnivorous (Hunter and Caro 2008). Scat analysis showed short-eared dog diet to be comprised predominately of fish, but also included fruits, small mammals, frogs, and invertebrates (Pitman et al. 2003). Furthermore, food experiments with a semi-domesticated male determined food choice to be omnivorous but with a preference for meat (pers. comm. R. Leite-Pitman). Anecdotally, short-eared dogs have been noted to predate frogs and rodents such as spiny rats, agoutis *Dasypus sp.*, and pacas *Cuniculus sp.* (Emmons 1997). A camera trap recorded the first known instance of a short-eared dog carrying a caecilian (Apoda) in its mouth, which it was thought to have predated (Cisneros-Heredia and Mosquera 2010). The indigenous Sharanauas people of Alto Purus, Peru, recommended the use of peccary intestines as bait for the short-eared dog and it was successfully used to capture an individual in Los Amigos, Peru (pers. comm. R. Leite-Pitman). There are no published observations of the short-eared dog scavenging, and to the best of my knowledge this is the first record of this species scavenging.

The following is the established format for referencing this article:

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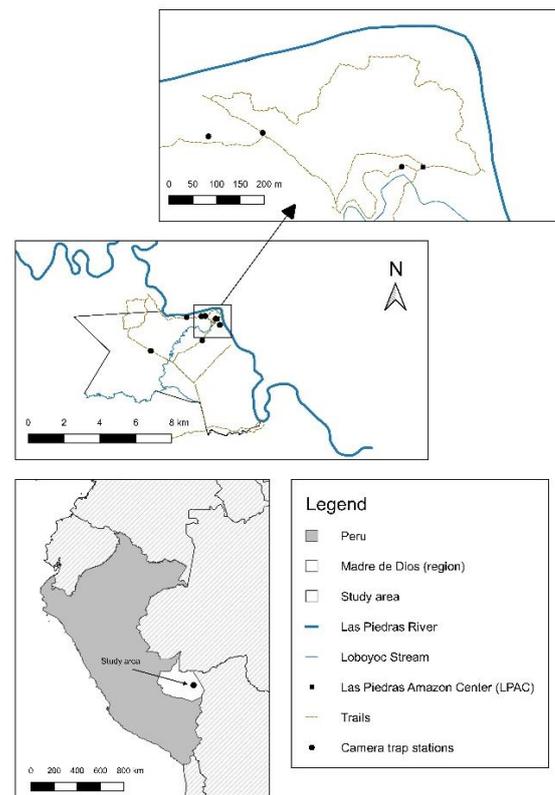


Figure 1. Camera trap locations within the concession of the Las Piedras Amazon Center. Inset shows the location of the study area within the Madre de Dios region of south-eastern Peru.

Results

Camera trap videos of a short-eared dog were recorded in June 2016 at the Las Piedras Amazon Center (LPAC) on the Lower Las Piedras River (12°04'13.1124"S, 69°29'38.1120"W) in the Madre de Dios region of south-eastern Peru (Figure 1). The habitat is lowland Amazon rainforest. The land is an ecotourism concession containing a field research station and conservation-tourism lodge. It covers an area of 44.60km² of low elevation flood-plain forest, higher elevation terra firme forest, bamboo forest patches, and palm swamp (aquajal). LPAC sits in a wider area of concessions, the vast majority of which are designated for the harvesting of Brazil nuts. There are several private conservation initiatives of similar size along the river within an approximately 20km radius. The closest state protected areas are the Tambopata National Reserve approximately 100 km to the south: the Madre de Dios Territorial Reserve approximately 100 km to the west (upriver from LPAC), and Manu National Park lying another 75 km beyond that. The Los Amigos private conservation concession (1,460km²) lies 85km south west of LPAC.



Figure 2. Still image from camera trap footage of a short-eared dog recorded at one of the permanent camera trap stations along a trail in the north-eastern area of the Las Piedras Amazon Center concession.

Two camera traps recorded six videos of the short-eared dog during a six-month survey focusing on a range of taxa. A Bushnell X-8 6MP camera trap was positioned on the intersection of two trails, located at 12°04'05.9880"S, 69°29'58.5960"W, from 3 March to 14 August 2016 (Figure 1). A lone short-eared dog was recorded three times during daylight hours, at 12:33, 12:33, and 12:34 on 21 June 2016 (video length 30 seconds; Figure 2). A second camera trap (Moultrie M1100i) was placed at the carcass of a nine-banded armadillo *Dasyus novemcinctus* at 12°04'06.4560"S, 69°30'06.1560"W on 12 June 2016 at 09:00 until 28 June 2016 at 09:11 (Figure 1). The carcass had no visible external wounds and appeared to have not yet been subject to scavenging. The trail close to which the carcass was found had been visited by the author 16 hours previously. The armadillo was therefore estimated to have likely died within the past 16 hours, or within a short time preceding that, due to the absence of the smell which led the author to detect the carcass. During the trapping period, three videos of a short-eared dog were recorded. The first video was recorded during daylight hours, likely on 21 June around 12:33h, however date and time settings were disrupted on the camera so exact time is unknown. In the first video the short-eared dog can be seen sniffing the area around the carcass for 29 seconds. Two further videos were recorded during the night three days later. In the first of the night-time videos the short-eared dog can be seen sniffing the carcass and moving its mouth on the carcass as though licking or tasting (Figure 3a, b). The final video shows the dog lifting a section of meat, which it drops again a few cm away (Figure 4a), with open mouth and teeth visible (Figure 4b). It is unclear whether the images show the same or two different individuals. It is only possible to determine sex of the individual in one video; it was determined to be a male. The short-eared dog was the only carnivore detected visiting or passing close to the carcass. Greater yellow-headed vultures *Cathartes melambrotus* and king vultures *Sarcorampus papa* made up most of the images, nine-banded armadillo, collared peccary

Pecari tajacu, common opossum *Didelphis marsupialis*, and a green acouchi *Myoprocta microtis* were also recorded within the time-frame.

Discussion

Nine-banded armadillos are a wide-ranging, common prey species for carnivores in the Americas (Loughry et al. 2014). They are known to be the prey of several other carnivores in the Americas, all of which occur in the study area: jaguar *Panthera onca* (Núñez et al. 2000, Garla et al. 2001, Novack et al. 2005, Weckel et al. 2006, Harmsen et al. 2011); puma *Puma concolor* (Núñez et al. 2000); ocelot *Leopardus pardalis* (Wang 2002, Bianchi et al. 2010, de Oliveira et al. 2010); margay *Leopardus wiedii* (Wang 2002, Bianchi et al. 2011); and the bush dog (de Mello Beisiegel and Zuercher 2005, de Souza Lima et al. 2012). To-date there are no records to confirm that any armadillo species are the prey of short-eared dogs. At the time of the discovery of the armadillo carcass, the area was subject to a weather phenomenon known locally as a friaje, where cold weather fronts from Antarctica cause sudden wind, rain, and low temperatures in this area of the Amazon. Temperatures may drop by between 10 °C and 20 °C within a few hours, to lows of between 5 °C and 10 °C (Marengo, 1984). Cold weather may have initially slowed the rate of degradation of the carcass; however temperatures had risen to normal (~25 – 30°C) when the videos of the short-eared dog were recorded. The observed scavenging behaviour may be an opportunistic event as a direct result of the cold weather front, or it may be a more common occurrence. It is notable that the dog visits the carcass twice over four days, however further studies will be required to determine if this is characteristic dietary behaviour of the species because it is not possible to establish this from one record. Little is known of the ecology of the short-eared dog. Here I have presented what I believe to be the first recorded instance of this species scavenging an armadillo carcass. Due to the extreme difficulties associated with studying this species in the wild, opportunistic, and incidental observations can provide meaningful and useful ecological information. I call for greater publication of these observations to contribute to available information on this little-known species in order to inform conservation management decisions.



Figure 3. Still images from camera trap footage of a short-eared dog recorded at the armadillo carcass. The dog sniffs the carcass and moves its mouth on the carcass as though licking or tasting.



Figure 4. Still images from camera trap footage of a short-eared dog recorded at the armadillo carcass. (a) The dog's mouth is open, with teeth visible, and in contact with the carcass. (b) The dog lifts and moves a piece of armadillo with its teeth.

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Biographical sketch

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