

## First record of a canid (*Atelocynus microtis*) predating on a caecilian amphibian

Diego F. Cisneros-Heredia<sup>1</sup>, Diego Mosquera<sup>2</sup>

<sup>1</sup>Universidad San Francisco de Quito, Colegio de Ciencias Biológicas y Ambientales.  
Diego de Robles y Vía Interoceánica, Quito, Ecuador.

<sup>2</sup>Estación de Biodiversidad Tiputini, Universidad San Francisco de Quito.  
Diego de Robles y Vía Interoceánica, Quito, Ecuador.

\*Autor principal/Corresponding author, e-mail: dcisneros@usfq.edu.ec

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### Abstract

The natural history and ecology of Neotropical forest-canids and caecilian amphibians are little documented, both for their natural rarity and secretive habitats. Herein we report the Short-eared Dog *Atelocynus microtis* predating on the caecilian amphibian *Caecilia tentaculata*. To the best of our knowledge, this is the first predation event of a canid on a caecilian.

**Keywords.** Canidae, Caeciliidae, predation, Amazonia, Ecuador.

### Resumen

La historia natural y ecología de los cánidos de bosques Neotropicales y de los anfibios apodos han sido poco documentados, en ambos casos debido a su rareza natural y hábitos reservados. Aquí reportamos un evento de predación por parte del Perro de Orejas Cortas *Atelocynus microtis* sobre una Cecilia o Ilulo *Caecilia tentaculata*. Basados en una amplia revisión bibliográfica, este parece ser el primer evento de predación reportado de un cánido sobre una cecilia.

**Palabras Clave.** Canidae, Caeciliidae, predación, Amazonia, Ecuador.



Figure 1: *Atelocynus microtis* carrying a *Caecilia tentaculata*. Tiputini Biodiversity Station, 23 April 2007.

The Short-eared Dog *Atelocynus microtis* (Sclater, 1883) is a medium-sized canid found in undisturbed habitats of western and central Amazonia of Colombia, Ecuador, Brazil, and Bolivia [1, 2]. Despite its wide distribution,

*Atelocynus microtis* is one of the rarest carnivores in the world and has been classified under the IUCN Red List category of Near Threatened; very little is known about its natural history [2, 3]. Data on its diet are scant and most existing information derives from a long-term study in Cocha-Cashu, Peru [2]. Available data suggest that *Atelocynus microtis* is a generalist carnivore, with an important dietary contribution coming from fishes, and including insects, small mammals, fruits, amphibians, crabs, birds and reptiles [2, 3, 4]. Caecilians are a poorly understood group of tropical, limbless worm-like fossorial amphibians of the order Gymnophiona. Their predator-prey relationships are inadequately known, with few reports of predators. Here, we contribute information on the diet of *Atelocynus* and predators of caecilians by reporting *Atelocynus microtis* feeding on a caecilian in Ecuadorian Amazonia.

A photograph of an adult *Atelocynus microtis* carrying a caecilian in the mouth was obtained on 23 April 2007 at 06:47 at the Tiputini Biodiversity Station (Fig. 1). Tiputini Biodiversity Station—TBS is located ca. 280 km

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ESE from Quito, in Amazonian Ecuador (0°38'17"S, 76°09'01"W; 190–270 m elevational range). This research station is managed by Universidad San Francisco de Quito (USFQ) and preserves a tract of 6.5 km<sup>2</sup> of old-growth tropical forest. Primary Lowland Evergreen Non-flooded forests cover most of TBS, with narrow areas along the river and streams covered by flooded forests. A photographic monitoring programme using camera traps triggered by heat and motion was established at TBS in December 2004. The photograph of *Atelocynus* with the caecilian was taken by a camera set along a trail located in a hilly area covered by non-flooded forest. Identification of the caecilian was based on its body size and colouration, a combination of features that is diagnostic for *Caecilia tentaculata* (Linnaeus, 1758) among all Gymnophiona from Amazonia, where it is the stouter, longer, and heavier caecilian.

As far as we are aware, this is the first report of *Atelocynus* or any other canid preying on caecilians, and in fact the first report of *Atelocynus* feeding on a fossorial, elongate vertebrate. Previously the only amphibians reported as part of its diet have been frogs [2]. Reported predators of caecilians mainly include a variety of snakes ([5, 6]; and citations therein), with occasional records of spiders, ants, turtles, domestic chickens, hawks, free-ranging pigs, and tenrecs preying on caecilian [7, 8]. Caecilians have granular glands in their skin that produce toxins, which may help dissuade predators [9], yet *Atelocynus microtis* did not seem to be deterred by toxins that *Caecilia tentaculata* might produce. *Caecilia tentaculata* inhabits most wet-forested areas of South America east of the Andes, including the Amazonian lowlands. The geographic range of *Atelocynus microtis* completely overlaps that of *Caecilia tentaculata*, and predation events may not be rare. However, due to the secretive habits of both species, little information is available on their ecological interactions.

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### References

- [1] Berta, A. 1986. "*Atelocynus microtis*". *Mammalian Species*. 256, 1–3.
- [2] Leite, M. and Williams, R. 2004. "Short-eared dog *Atelocynus microtis*". *Canids: Foxes, Wolves, Jackals, and Dogs - Species Status and Conservation Action Plan*. Cambridge: IUCN/SSC Canids Specialist Group. 1, 26–31.
- [3] Peres, C. 1992. "Observations on hunting by small-eared (*Atelocynus microtis*) and bush dogs (*Speothos venaticus*) in central-western Amazonia". *Mammalia*. 55, 635–639.
- [4] Defler, T. and Santacruz, A. 1994. "A capture of and some notes on *Atelocynus microtis* (sclater, 1883) (Carnivora: Canidae) in the Colombian Amazon". *Trianea*. 5, 417–419.
- [5] Kupfer, A., Gower, D., and Himstedt, W. 2003. "Field observations on the predation of the caecilian amphibian, genus *Ichthyophis* (fitzinger, 1826), by the red-tailed pipe snake *Cylindrophis ruffus* (Laurenti, 1768)". *Amphibia-Reptilia*. 24, 212–215.
- [6] Gower, D., Rasmussen, J., Loader, S., and Wilkinson, M. 2004. "The caecilian amphibian *Scolecophorus kirkii* as prey of the burrowing asp *Atractaspis aterrima* gunther: Trophic relationship of fossorial vertebrates." *African Journal of Ecology*. 42, 83–87.
- [7] Stoddart, D. 1984. "Biogeography and ecology of the seychelles islands". *Monographiae Biologicae (Netherlands)*. 55, 1–691.
- [8] Greeney, H., Gelis, R., and Funk, W. 2008. "Predation on caecilians (*Caecilia orientalis*) by barred hawks (*Leucopterni sprinceps*) depends on rainfall". *Herpetological Review*. 39, 162–164.
- [9] Duellman, W. and Trueb, L. 1994. "Biology of amphibians". *Baltimore: JohnsHopkins University Press*.