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## Bathing Behavior of Giant Anteaters (*Myrmecophaga tridactyla*)

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While following maned wolves (*Chrysocyon brachyurus*) during the dry season at Los Fierros (14°33.24'S, 60°55.40'W) in Parque Nacional Noël Kempff Mercado (Santa Cruz Department, Bolivia), we discovered an isolated pampa waterhole in a landscape depression, where mammals come to drink. The Los Fierros pampa has been experiencing an increasingly severe water shortage during the late dry season (August–October), and we have been following events at this water hole for three seasons.

When the water table drops below the ground surface, giant anteaters dig down to reach the water, as evidenced by a deep, fist-sized hole that is scarred with large claw marks. This activity by anteaters allows other animals – such as maned wolves, ocelots, raccoons, marsh deer, and birds – to reach otherwise inaccessible drinking water. Since 2002, we have been shoveling out and enlarging the hole and digging steps to enable mammals and birds to drink from water as deep as 90 cm below the ground surface, held within a layer of fine gray clay. During the wet season, which extends from November to June, there is a large pond over the site. To monitor animal activity in the dry season, we set a camera trap (TrailMaster 1550 or 550) aimed at the approach to the hole during September and October of 2002, 2003 and 2004.

We have acquired over 70 photos of giant anteaters coming to the water hole, including many photo pairs of the same individual, first arriving and then leaving the water source. The photos show many anteaters arriving dry, then leaving the hole soaking wet. They often emerge covered with gray mud from the soft clay of the water basin (Fig. 1). They are clearly rolling over within the waterhole, soaking their entire body and tail.

Although the anteaters were often completely coated with mud, we believe it likely that they were bathing, rather than mud-wallowing. We have a photo, taken when there was a small shallow pond present, of an anteater rolling in clean water at the ground surface. Bathing in water or wallowing in mud is rare in mammals that are

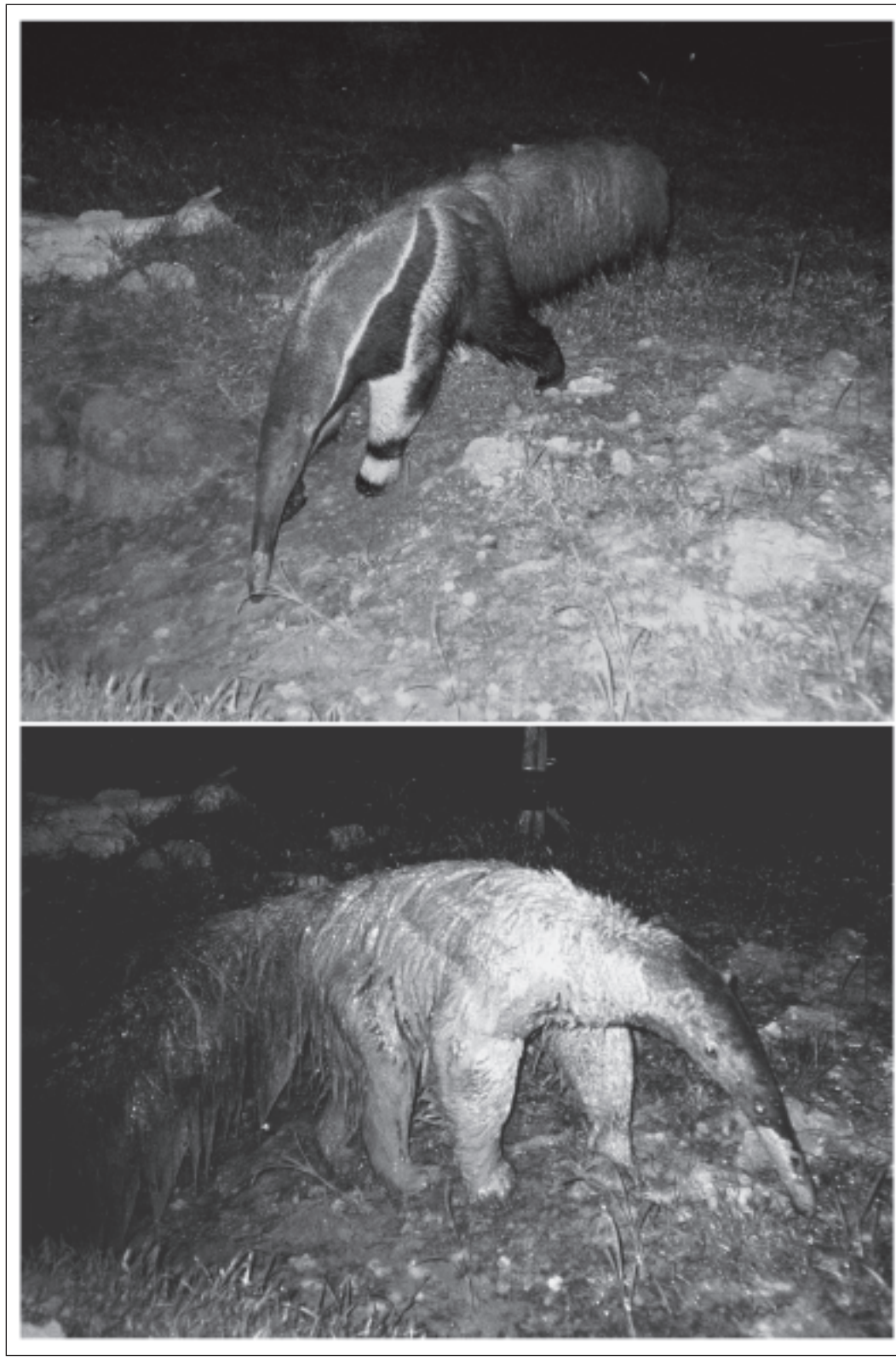

**FIGURE 1.** Giant anteater approaching the waterhole, 10 October, 2004, at 00:23 h (above); and the same animal leaving the waterhole, 00:31 h (below).

not semi-aquatic. Horses and humans bathe, both of them species that sweat, and thus benefit from washing to clean off dried salts; and both also species that often need cooling, which is probably why sweating evolved. Elephants, tapirs and hippos also bathe in water: these are thinly-haired megafauna that likely bathe to thermoregulate. Pigs and peccaries, generally sparse-haired, wallow in mud, perhaps to thermoregulate, prevent sunburn, repel biting flies, or all of the above. Many mammals, including the above species, also play in water.

But why do anteaters bathe? They are hairy, not large-muscled (muscles produce the body heat) and do not sweat. Moreover, they bathe (or wallow) during the middle of the night, when it is cool (usually < 23°C), and during the dry season, when there are almost no biting flies at night. On clear nights, the pampa grass is usually soaked with dew before midnight, and sometimes the anteaters arrived at the waterhole with legs and the lower half of their tails dripping. Giant anteaters do not share the physical characteristics of other bathing or wallowing mammals, and we cannot explain why they bathe: perhaps they can rid themselves of attached biting ants or termites. Maybe they simply enjoy it: captive giant anteaters at the Santa Barbara Zoo in California were hosed down as part of their behavioral enhancement. The anteaters apparently took great pleasure from this, craning their necks into the water, and aggressively trying to displace each other for position under the spray (Jessie Quinn, pers. comm.). Giant anteaters occupy habitats that include flooded grasslands (*pantanal*) and humid forests where seasonal flooding covers large portions of the habitat (*várzea* and *igapó*), and where the animals may need to swim to travel between dry patches. It is therefore not surprising that they should readily take to water, but their bathing behavior remains an enigma to be resolved by further observation.

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## Evaluación de una Dieta para Tamanduás (*Tamandua* spp.) Utilizada en el Jardín Zoológico de Rosario, Argentina y el Zoológico La Aurora, Guatemala

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**Introducción**

El desarrollo de una dieta nutritivamente equilibrada para una especie silvestre siempre es un reto para quienes se desempeñan en zoológicos, pero este reto se multiplica cuando de especies "superespecialistas" se trata. Los tamanduás (*T. tetradactyla* y *T. mexicana*) habitan la región central y sur de América. Son insectívoros, alimentándose exclusivamente de hormigas y termitas de diversas especies en las diferentes épocas del año (Montgomery, 1985a). A pesar de lo dicho, Meritt Jr. (1976) opina que además de hormigas, termitas y sus larvas los tamanduás ingieren otros insectos, como así también ocasionalmente frutas.

Una nutrición inadecuada o incompleta ha sido una de las causas de falta de adaptación y fracasos en el intento de mantener a estas especies en cautiverio (Meritt Jr., 1976; Ward *et al.*, 1995; Oyarzun *et al.*, 1996). Por otra parte los ejemplares que llegan a los zoológicos americanos en general lo hacen en muy malas condiciones (Crandall,