First report of Inia geoffrensis (Artiodactyla: Iniidae) in the Morona River, Morona Santiago, Ecuador

Primer reporte de Inia geoffrensis (Artiodactyla: Iniidae) en el río Morona, Morona Santiago, Ecuador

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ABSTRACT
The Amazon River dolphin (Inia geoffrensis) is an aquatic mammal that inhabits rivers, lagoons, and flooded forests in the Amazon basin at elevations lower than 300 m above sea level. In Ecuador, the species has been recorded in all major rivers except the Morona River. Here, we document our recurring observations of Amazon River dolphins in the Morona River, at a site near the Ecuadorian border with Peru, complementing the distribution information for this species in Ecuador.

Keywords: Amazon River dolphin, distribution, whitewater river.

RESUMEN
El delfín amazónico (Inia geoffrensis) es un mamífero acuático presente en ríos, lagunas y bosques inundados en la Amazonia baja, a menos de 300 m de elevación. En Ecuador, la especie ha sido reportada en todos los ríos principales, excepto en el Morona. Aquí documentamos las constantes observaciones de delfín amazónico en el río Morona, en un sitio cerca de la frontera ecuatoriana con Perú, con lo cual se completa la información sobre la distribución de la especie en el Ecuador.

Palabras clave: Delfín amazónico, distribución, río de aguas blancas.

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The Amazon River dolphin (*Inia geoffrensis*) inhabits rivers, lagoons, and flooded forests in the Amazon basin at elevations lower than 300 m above sea level (Da Silva et al., 2023). Currently, the species is listed as Endangered by the International Union for Conservation of Nature (IUCN; Da Silva et al., 2018). In Ecuador, the species is listed as Critically Endangered (Tirira, 2021) and is present along lower Amazonian watersheds including the Aguarico, Curaray, Napo, Pastaza, and Santiago rivers (Tirira, 2017; Utreras et al., 2010). Until this day, the only major Ecuadorian river in the Amazon basin in which the Amazon River dolphin has not been recorded is the Morona River (Utreras et al., 2010).

In this report, we document the sightings of Amazon River dolphins in the Morona River, in the canton of Tiwintza, Morona Santiago province, Ecuador. On August 21, 2022, at a site known as “Campamento Remolinos” (02°56’53” S, 77°42’40” W; 193 m above sea level), we saw two individuals simultaneously in a silty and very turbid whitewater area characterized by riparian vegetation and mud beaches. The site is near the Ecuadorian-Peruvian border and is subject to the presence of frequent motorboats, constant fishing, and floating plastic debris. The Amazon River dolphins were identified by their large size, elongated mouths, and low dorsal fins (Figure 1; Tirira, 2017).

We visited this area by boat on four additional dates: November 2, 2022; January 26, 2023; August 26, 2023; and December 8, 2023 (Figure 1). We observed Amazon River dolphins on each occasion, including during the January rainy season and the August dry season. During our last visit, in December 2023, we recorded the presence of Amazon River dolphins in two more locations along the Morona River (02°56’02” S, 77°43’56” W, 194 m above sea level; and 02°55’53” S, 77°43’34” W, 197 m above sea level).

During these latter observations, we obtained aerial photographs using a drone and recorded three individuals simultaneously surfacing to breathe. In this area, the approximate depth of the river was 14 m in the deepest part and 4 m in the shallowest part. In addition, on August 24, 2023, we also recorded the presence of the other Amazonian dolphin species at the same site: the tucuxi (*Sotalia fluviatilis*), a species already reported in this basin (Utreras et al., 2010; Zapata & Utreras, 2004).

Given the low detectability of the Amazon River dolphin, their population status and distribution have likely been underestimated, even though this species is known to display...
The observations presented here, along with records near the Ecuadorian-Peruvian border in the Kusuim Stream and other Santiago River tributaries (Grant et al., 2023; Mauricio Castillo, pers. comm.), adjacent to the “Cordillera del Condor” Mountain Range at the headwaters of the Marañón River (Figure 2), constitute the westernmost records of this species (Utreras et al., 2010) and confirm the presence of the Amazon River dolphin in all of the main Amazon river systems of Ecuador (Utreras et al., 2010).

The greatest threats faced by this aquatic species are the pollution of rivers due to oil activities, the disposal of used oil and fuels in watersheds, fishing, and artificial dams (Da Silva et al., 2023; Tirira, 2017). The conservation of the Amazonian dolphins in Ecuador relies on the river systems in two protected areas, Reserva de Producción Faunística Cuyabeno and Parque Nacional Yasuní (Utreras et al., 2010). Reporting the presence of this species in additional river systems could generate new impetus for its conservation.

These observations of the Amazon River dolphin are located in an area that was subject to a territorial dispute between Ecuador and Peru until 1998, when a peace treaty was signed that established the border. Since then, there has been interest in the economic development of this area, including a plan to improve basic infrastructure through the opening of roads, which has resulted in logging and the expansion of the agricultural frontier (Donoso, 2009). In the Morona River, we observed fishing with nets and domestic river transportation by means of small canoes powered by outboard motors. Important natural attributes have thus far been preserved despite the recent colonization of the area. Therefore, the conservation of the Amazonian River dolphin in the Morona River will depend on the empowerment of the local community (Da Silva et al., 2023) and the recognition of the value of this species with respect to tourism activities as part of the local economy. Finally, conservation strategies in this area should consider river systems and promote plans to avoid bycatch of threatened species by local fishermen.

Figure 2. Records of the Amazon River dolphin (*Inia geoffrensis*) from the Morona and Santiago rivers.
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