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First report of juvenile fish (genus *Geophagus*) in the diet of the neotropical caecilian *Potomotyphlus kaupii* (Berthold, 1859)

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Caecilians are elongated, limbless amphibians with striking characteristics that are often compared to snakes. Among other interesting features, they possess eyes with limited light perception ability, dermal folds that form body rings, and sensory tentacles (Nussbaum and Wilkinson, 1989; Himstedt, 1996). These animals exhibit diverse habits, including terrestrial, semiaquatic, and exclusively aquatic lifestyles, the latter seen in many species of the Family Typhlonectidae (Maciel et al., 2015; Santos et al., 2024).

Typhlonectids are endemic to South America, with 14 currently recognized species across five genera (Maciel et al., 2015; Santos et al., 2024). These species inhabit a variety of aquatic environments, such as lakes, streams, and large rivers (Kupfer et al., 2006). Their diet ranges from invertebrates to small vertebrates (Verdade et al., 2000), though they are not considered active predators and may also scavenge on dead animals, such as fish (Exbrayat and Delsol, 1985; Kupfer et al., 2006; Maciel and Hoogmoed, 2011; Maciel et al., 2012; Tapley et al., 2022).

Potomotyphlus kaupii is a fully aquatic caecilian endemic to northern South America, with records in Colombia, Ecuador, French Guiana, Peru, Brazil, and Venezuela (Marty et al., 2007; Maciel and Hoogmoed, 2011). The species is found in the drainage systems of the Amazon and Orinoco Rivers, and in Brazil it has been documented in the states of Acre, Amapá, Amazonas, Goiás, Pará, Rondônia, and Roraima. Despite recent efforts to better understand the biology and ecology of the members of this genus, key aspects, including their diet, remain poorly understood (Araújo et al., 2024). Little is known about the natural diet of *P. kaupii*, but individuals have been captured in aquatic traps using cooked shrimp and raw fish as bait (Rendle et al., 2015; Araújo et al., 2024). We here report a new dietary component of free-living *P. kaupii*.

During a turtle survey at the confluence of the Tapajós and Amazon Rivers on 17 January 2023, a caecilian was accidentally caught in a gill net near the Enseada Grande community (2.3755°S, 54.7458°W; SIRGAS 2000 geodetic reference system), located on the left bank of the Tapajós River (Fig. 1A). After confirming its death, the specimen was sent to the Laboratório de Ecologia e Comportamento Animal at the Universidade Federal do Oeste do Pará for identification and analysis. In the laboratory, the specimen was identified as *P. kaupii* using the taxonomic key by Maciel and Hoogmoed (2011) (Fig. 1B) and was examined for endoparasites, and its stomach contents were fully extracted (Fig. 1C). The small fish in the stomach were sent to the Laboratório de Ecologia do Ictioplâncton e Pesca em Águas Interiores at the same university for identification.

The stomach contents included 19 juvenile fishes (Fig. 1D). Based on their morphological characteristics and using taxonomic references specific to neotropical ichthyofauna (Nakatani, 2001), the fishes were identified as members of the cichlid genus *Geophagus*. However, the advanced state of digestion prevented a more precise taxonomic identification, as key morphological features were degraded.

The genus *Geophagus* has a complex taxonomy and currently includes 33 species (Ilves et al., 2017; Fricke et al., 2023). The most likely taxonomic assignment for the juvenile prey is the *Geophagus sensu stricto* group (sensu Mattos and Costa, 2018), which comprises 22

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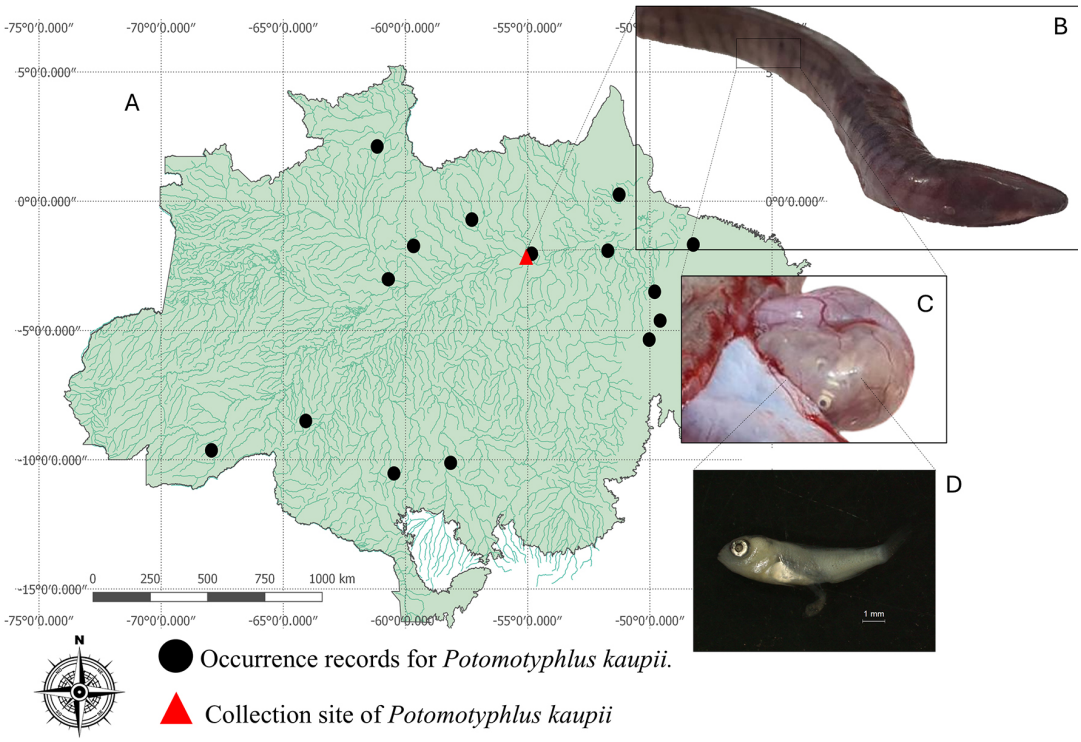

Figure 1. (A) Occurrence of *Potomotyphlus kaupii* in the Brazilian Amazon. The sampling point in Enseada Grande on the left bank of the Tapajós River, Santarém, State of Pará, Brazil is indicated by the red triangle. (B) Adult *P. kaupii*, captured in a gill net. (C) Everted stomach showing the presence of juvenile fish. (D) A juvenile *Geophagus* sp. from the caecilian's stomach contents. Photos by Darlison Chagas-de-Souza.

species found in the Amazon, Orinoco, Parnaíba, and northern Atlantic coast basins (Castelnau, 1855; Deprá et al., 2014; Chuctaya et al., 2022). These species inhabit the margins of rivers and lakes in clear, white, and black waters, thriving in both lentic and lotic environments (Santos et al., 2006; López-Fernández and Taphorn, 2004).

The observation of *P. kaupii* preying on fish of the genus *Geophagus* is particularly intriguing, as this behaviour has not been documented previously. Caecilian species of the genus *Typhlonectes* are usually abundant around fishing villages, where they consume fish viscera (Kupfer et al., 2006). Given that *P. kaupii* is not known to be a hunting predator (Tapley et al., 2019), this predation event is unexpected. Additionally, many *Geophagus* species exhibit parental care, protecting their offspring from egg incubation through to the juvenile stage (Reis, 2003), which makes it difficult for an active predator to act. Therefore, the event it is more likely that the prey was captured individually, which is considered to be more characteristic of an opportunistic predator than a hunting predator. This finding may indicate an ecological adaptation to specific niches or the availability of prey in its habitat since little is known about their diet and feeding habits.

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