

Intestinal parasites infecting squirrel monkeys (*Saimiri cassiquiarensis*) in a Human - Non human primate interface in Colombia

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BACKGROUND

- Zoonotic diseases are considered a major threat to public health and wildlife conservation. The risk of zoonotic transmissions is high between human and non-human primates (NHP) living in spatial proximity, especially as a consequence of forest loss and fragmentation (Sirima et al., 2021).
- Under this scenario, the screening of parasites in NHP is important to inform public health policies from the One-Health perspective.

OBJECTIVE

This study aimed to identify and molecularly characterize intestinal parasites of free-ranging squirrel monkeys living in three forest fragments in Colombia where NHP are in close proximity to humans, and often subjected to food provisioning.

MATERIALS AND METHODS

Sampling was conducted in three study sites in Colombia (Guacavía, Cumaral and Villavicencio), where NHPs are free-ranging and living in forest fragments in close proximity to humans.

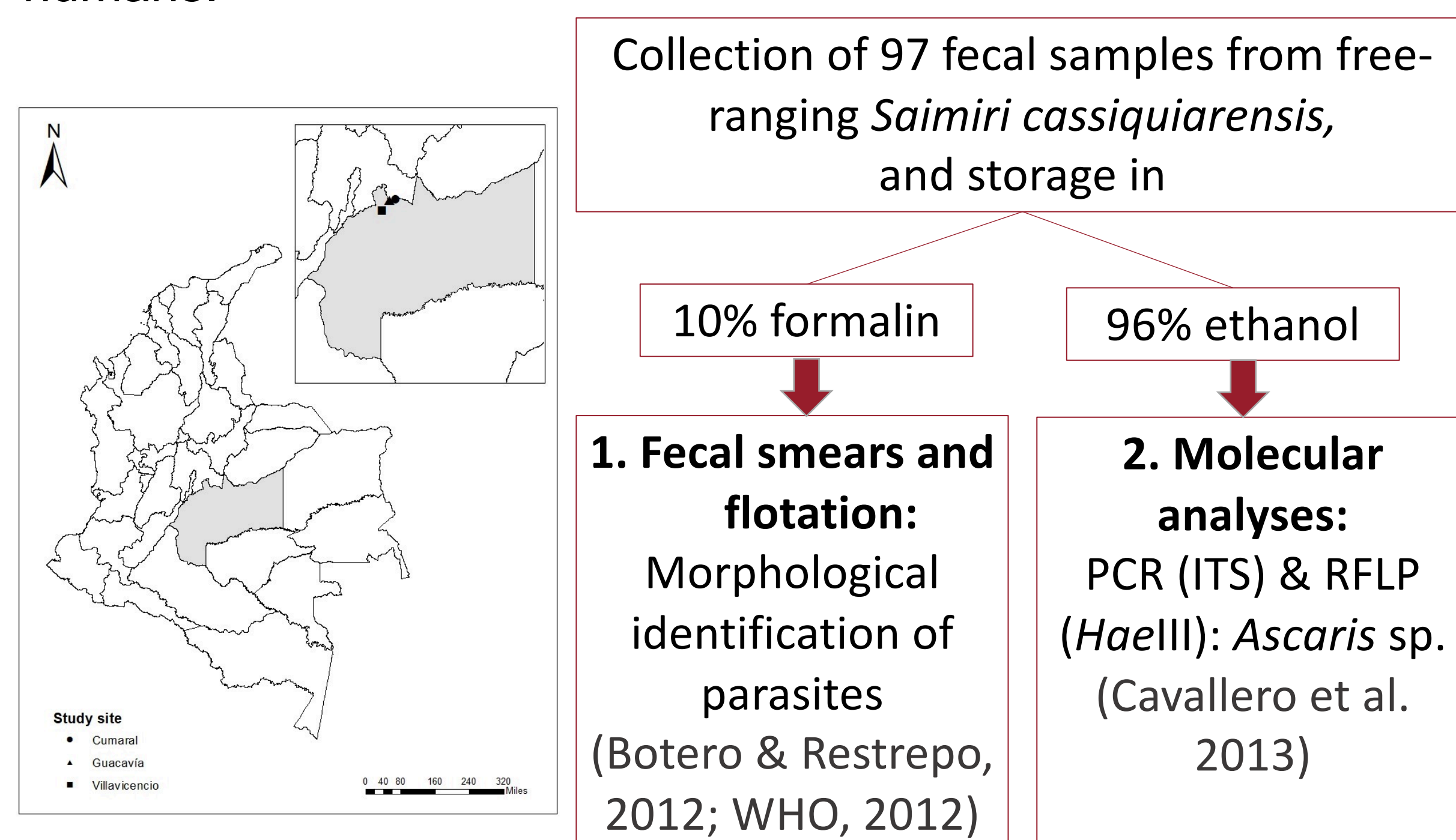


Figure 1. Study sites and methodological workflow.



Figure 2. *Saimiri cassiquiarensis* in close contact with humans and subjected to food provisioning in the outdoor spaces of houses near the forest fragments.

RESULTS

- 98% of the samples were positive for intestinal parasites.
- Protozoans (*Blastocystis* sp., *Dientamoeba* sp., Entamoebidae, *Giardia* sp.), Nematodes (*Ascarididae*, *Strongyloides* sp., *Trypanoxyuris* sp.), Cestodes (*Hymenolepis* sp.), Trematodes (*Controrchis* sp.), and Acanthocephalans were identified based on morphology.
- *Ascaris lumbricoides* was confirmed by molecular techniques (n=2).



Figure 3. A. *Entamoeba* sp. (30 µm), B. *Giardia* sp. (12x8 µm), C. *Dientamoeba* sp. (10 µm), D. *Blastocystis* sp. (8 µm), E. *Trypanoxyuris* sp. (45x20 µm), F. *Controrchis* sp. (35x20 µm), G. *Ascaris* sp. (40x75 µm), H. *Acanthocephala* (40x70 µm), I. *Strongyloides* sp. larva

CONCLUSIONS

- The finding of intestinal parasites with zoonotic potential suggests epidemiological implications.
- We recommend conducting regular parasite surveys in NHP in order to monitor the potential zoonotic transmission risk.
- Educational activities with the exposed local communities should be encouraged in order to increase the awareness regarding the potential risk of zoonotic transmissions, and the importance of avoiding food provisioning and physical contact with NHP.