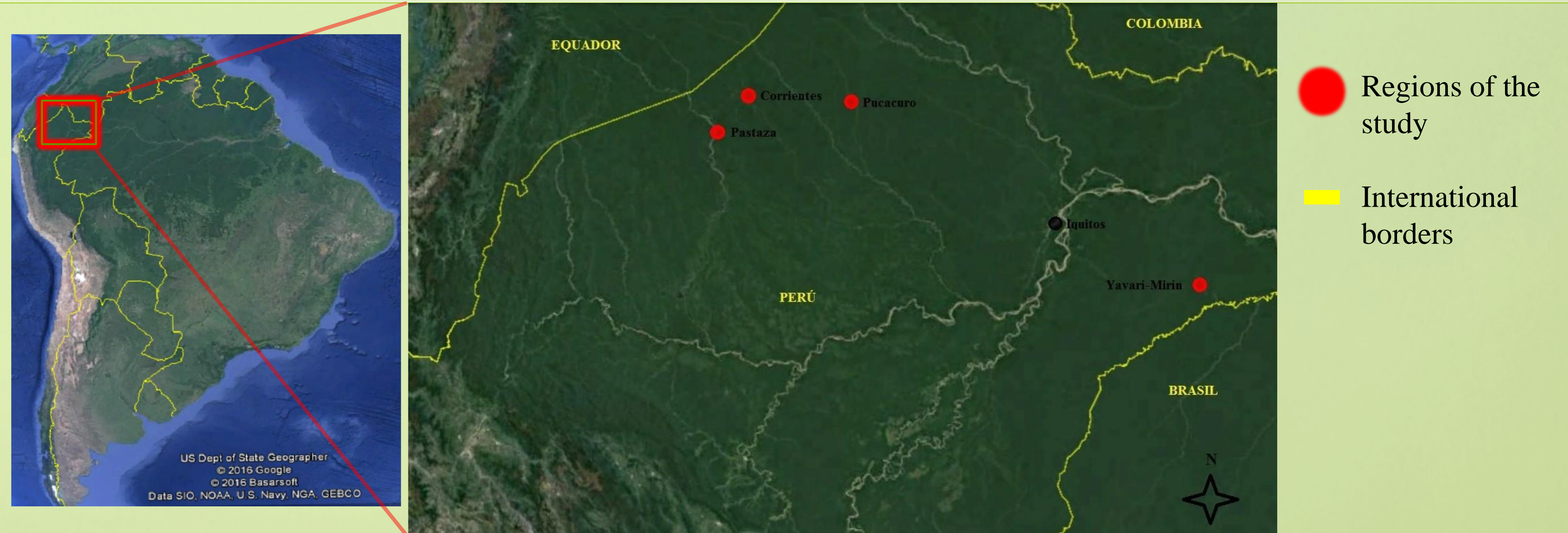


# Gastrointestinal helminths in amazonian free-ranging wild fauna

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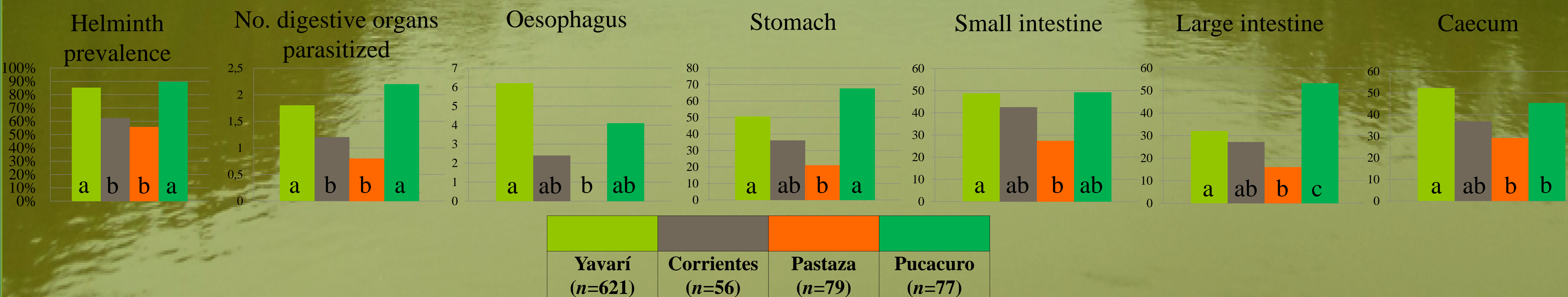
**Introduction:** On a parasitological ecology basis, we studied the prevalence of macroscopic gastrointestinal helminths per individual, alongside with the total of tubular organs parasitized and the rates of presence in the different digestive tubular organs. Results showed differences in the prevalence of helminths in animals of different taxonomic order as well as among animals belonging to different places of the Peruvian Amazon.

**Objectives :** Our aim was to determine rates of presence of macroscopic gastrointestinal helminth parasites in free-range wild fauna. We compared these rates among the hosts of different taxonomic classification, habitat and diet belonging to different regions of the peruvian Amazon and with different degrees of human presence.



**Results:**

| Taxonomic clasification | Frecuency %                  | No. digestive organs parasitized | Oesophagus %                  | Stomach %                      | Small intestine %              | Large intestine %               | Caecum %                       |
|-------------------------|------------------------------|----------------------------------|-------------------------------|--------------------------------|--------------------------------|---------------------------------|--------------------------------|
| <b>Mammalia (n=613)</b> | <b>88,6±31,8</b>             | 1,9±1,3                          | 4,2±2,0                       | 55,6±49,7                      | 51,5±50,0                      | 38,5±48,7                       | <b>55,6±49,7</b>               |
| Artyodactyla (n=113)    | 84,9±35,9 <sup>a</sup>       | 1,8±1,2 <sup>a</sup>             | 4,7±21,3 (n=85)               | 57,5±49,6 (n=106) <sup>a</sup> | 51,8±50,1 (n=110) <sup>a</sup> | 36,0±48,2 (n=111)               | 45,3±50,0 (n=108) <sup>a</sup> |
| Carnívora (n=19)        | 89,4±31,5 <sup>ab</sup>      | 1,6±0,9 <sup>a</sup>             | 5,2±22,9 (n=19)               | 73,6±45,2 (n=19) <sup>b</sup>  | 57,8±50,7 (n=19) <sup>ab</sup> | 27,7±46,0 (n=18)                | No tested                      |
| Cingulata (n=18)        | 77,7±42,7 <sup>c</sup>       | 1,7±1,6 <sup>a</sup>             | 0,0±0,0 (n=13)                | 23,5±43,7 (n=17) <sup>c</sup>  | 33,3±48,5 (n=18) <sup>b</sup>  | 61,1±50,1 (n=18)                | 91,6±28,8 (n=12) <sup>c</sup>  |
| Primatia (n=185)        | 87,0±33,7 <sup>ab</sup>      | 1,4±1,3 <sup>a</sup>             | 1,3±11,7 (n=145)              | 27,4±44,7 (n=175) <sup>c</sup> | 37,2±48,4 (n=180) <sup>b</sup> | 41,9±49,5 (n=181)               | 39,6±49,0 (n=179) <sup>a</sup> |
| Rodentia (n=278)        | <b>91,7±27,6<sup>b</sup></b> | <b>2,4±1,2<sup>b</sup></b>       | 5,9±23,6 (n=219)              | 73,8±44,0 (n=268) <sup>b</sup> | 61,5±48,7 (n=273) <sup>a</sup> | 36,4±48,2 (n=275)               | 72,5±44,7 (n=273) <sup>b</sup> |
| <b>Ave (n=204)</b>      | <b>60,8±48,9</b>             | 1,1±1,1                          | 7,7±26,8                      | 28,1±45,0                      | 33,0±47,1                      | 13,0±33,7                       | <b>33,6±47,3</b>               |
| Galliforme (n=128)      | <b>67,2±47,1</b>             | 1,1±1,1                          | 7,1±25,9 (n=84)               | 28,5±45,3 (n=123)              | 36,7±48,4 (n=128)              | 14,1±34,9 (n=128) <sup>ab</sup> | 33,6±47,4 (n=128)              |
| Gruiforme (n=19)        | 57,9±50,7                    | 1,1±1,1                          | 0,0±0,0 (n=8)                 | 53,3±51,6 (n=15) <sup>b</sup>  | 26,3±45,2 (n=19)               | 0,0±0,0 (n=17) <sup>ab</sup>    | 44,4±51,1 (n=18)               |
| Piciformes (n=7)        | 42,9±53,5                    | 0,5±0,7                          | 0,0±0,0 (n=5)                 | 33,3±51,6 (n=6)                | 16,7±40,8 (n=6)                | 16,7±40,8 (n=6) <sup>ab</sup>   | 0,0±0,0 (n=4)                  |
| Psittaciforme (n=8)     | 37,5±51,8                    | 0,5±0,7                          | 0,0±0,0 (n=7) <sup>b</sup>    | 0,0±0,0 (n=8) <sup>c</sup>     | 37,5±51,8 (n=8)                | 0,0±0,0 (n=7) <sup>ac</sup>     | 14,3±37,8 (n=7)                |
| Tinamiforme (n=42)      | 50,0±50,6                    | 1,1±1,2                          | 16,0±37,4 (n=25) <sup>a</sup> | 22,5±42,3 (n=40) <sup>ab</sup> | 26,2±44,5 (n=42)               | 16,7±37,7 (n=42) <sup>b</sup>   | 35,7±48,5 (n=42)               |
| <b>Total (n=817)</b>    | <b>81,6 ± 38,7</b>           | 1,7 ± 1,3                        | 5,1±22,1                      | 48,7±50,0                      | 46,5±49,9                      | 32,2±46,8                       | <b>49,1±50,0</b>               |



**Conclusions:**

- ❖ We observed high presence rates of helminths (81,6%) in the whole sample of 817 wild animals from the Peruvian Amazon.
- ❖ Mammals showed higher rates of helminthiasis than Birds.
- ❖ There is relation between helminth presence and the Taxonomic Order classification of the fauna that formed the sample. Also between helminth presence and the place where the samples came from.
- ❖ Higher rates were observed in the stomach and caecum in Mammals, and small intestine and caecum in Birds. The caecum is the most parasitized tubular organ of the whole sample.
- ❖ Free-ranging wild individuals from potentially polluted areas as a result of oil extraction activities, showed lower rates of helminth presence per individual and per digestive tubular organ.