REPRODUCTIVE PATTERN OF YELLOW-FOOTED TORTOISE (*Chelonoidis denticulata*) IN THE PERUVIAN AMAZON

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OBJECTIVES

This study aims to understand the seasonal reproduction in the *C. denticulata* related with seasonal patterns in hydrology, for the improvement of management and conservation strategies.

MATERIAL AND METHODS

📷 Photographs of the reproductive system of *C. denticulata* females (n = 72) hunted in the Napo River between 2014-2015.

🔍 Photograph analysis made with the ImageJ program (Figure 1). Hydrological data obtained from the SENAMHI website.

📊 The calculations of the monthly reproductive variables: number, diameter of ovarian follicles and eggs; and percentage of active females. Pearson to relate climatic and reproductive variables.

INTRODUCTION

Cheloinidis denticulate, one of the species with the highest hunting value in the Amazon. *C. denticulate,* is listed in Appendix II of CITES and Vulnerable by IUCN. The main threat to the population of this specie is the great hunting and extraction pressure for the pet market. The lack of information about reproduction ecology hinders the establishment of adequate management and conservation plans.
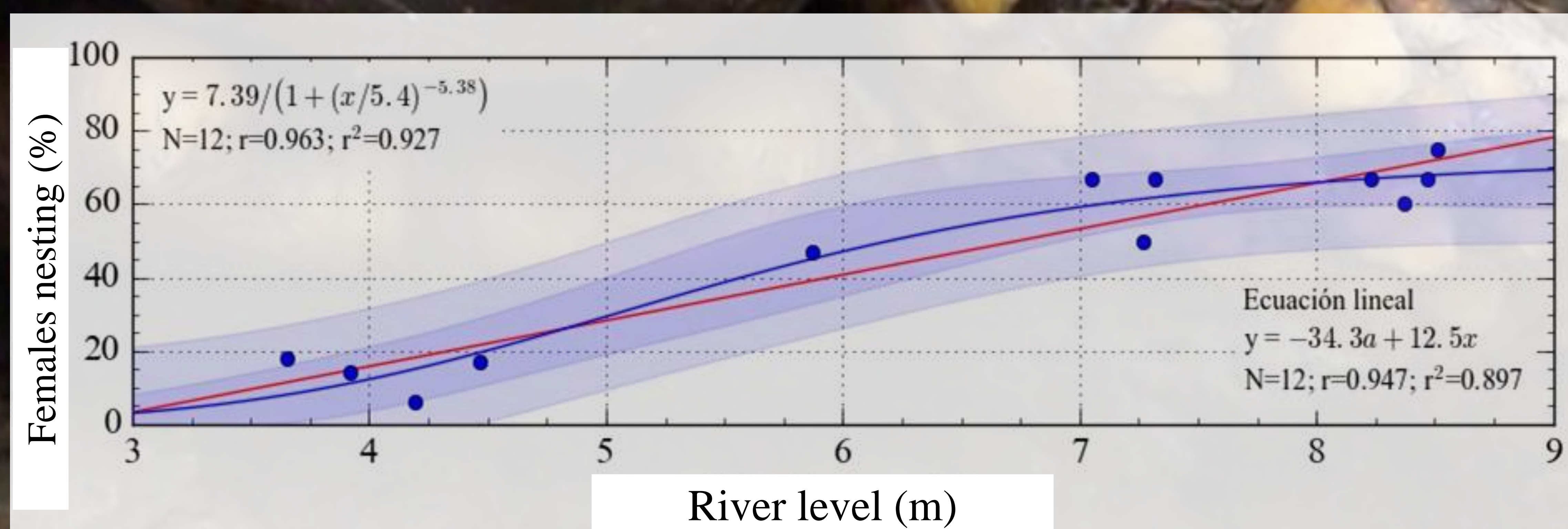
CONCLUSIONS

Chelonoidis denticulata presents a reproductive seasonal pattern related to hydrology and rainfall. The nesting period starts two months after the rainfall decrease to ensure the humidity of the eggs during the incubation period. Hatching occurs when the river water levels are low and the onset of the rainy season because of the more availability and accessibility to food on the flooded Amazonian forests
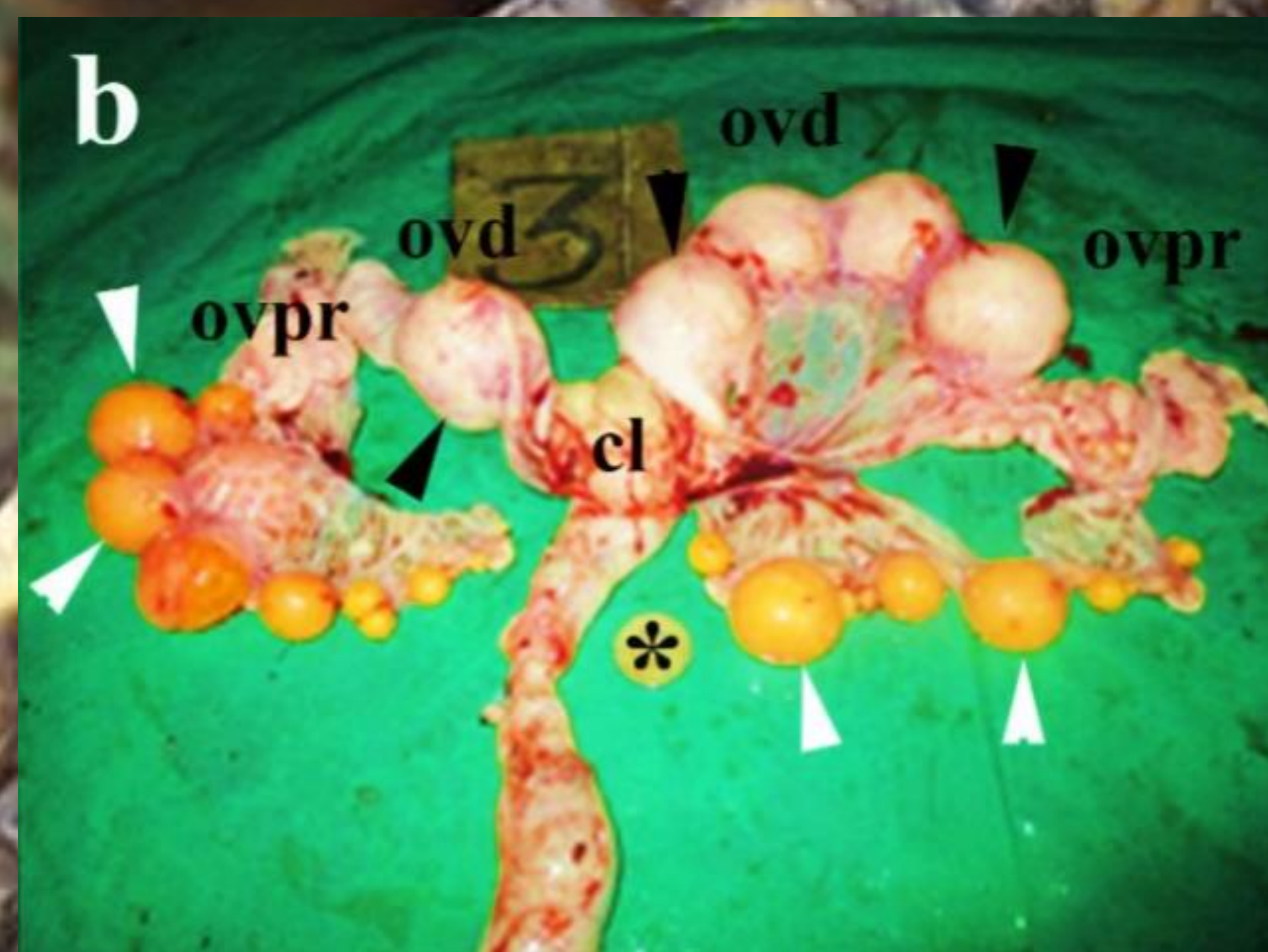

Figure 1: Images used for the analysis of the reproductive tract of C. denticulate. Follicles (white arrow head), proximal oviduct (ovpr) distal oviduct (ovd), cloaca (cl) and eggs (black arrow head). The image shows the coin (*) of a Peruvian sun used to make the biometric scale.

RESULTS

$$y = 7.39/\left(1+(x/5.4)^{-5.38}\right)$$
$$N=12; r=0.963; r^2=0.927$$

Ecuación lineal
$$y = -34.3a + 12.5x$$
$$N=12; r=0.947; r^2=0.897$$

Figure 2: Linear relationship (red line) and nonlinear logistic relationship (blue line) between the monthly percentage of females in the spawning phase with a lag of 2 months (n = 72) and the level of water (m) in the river Napo.
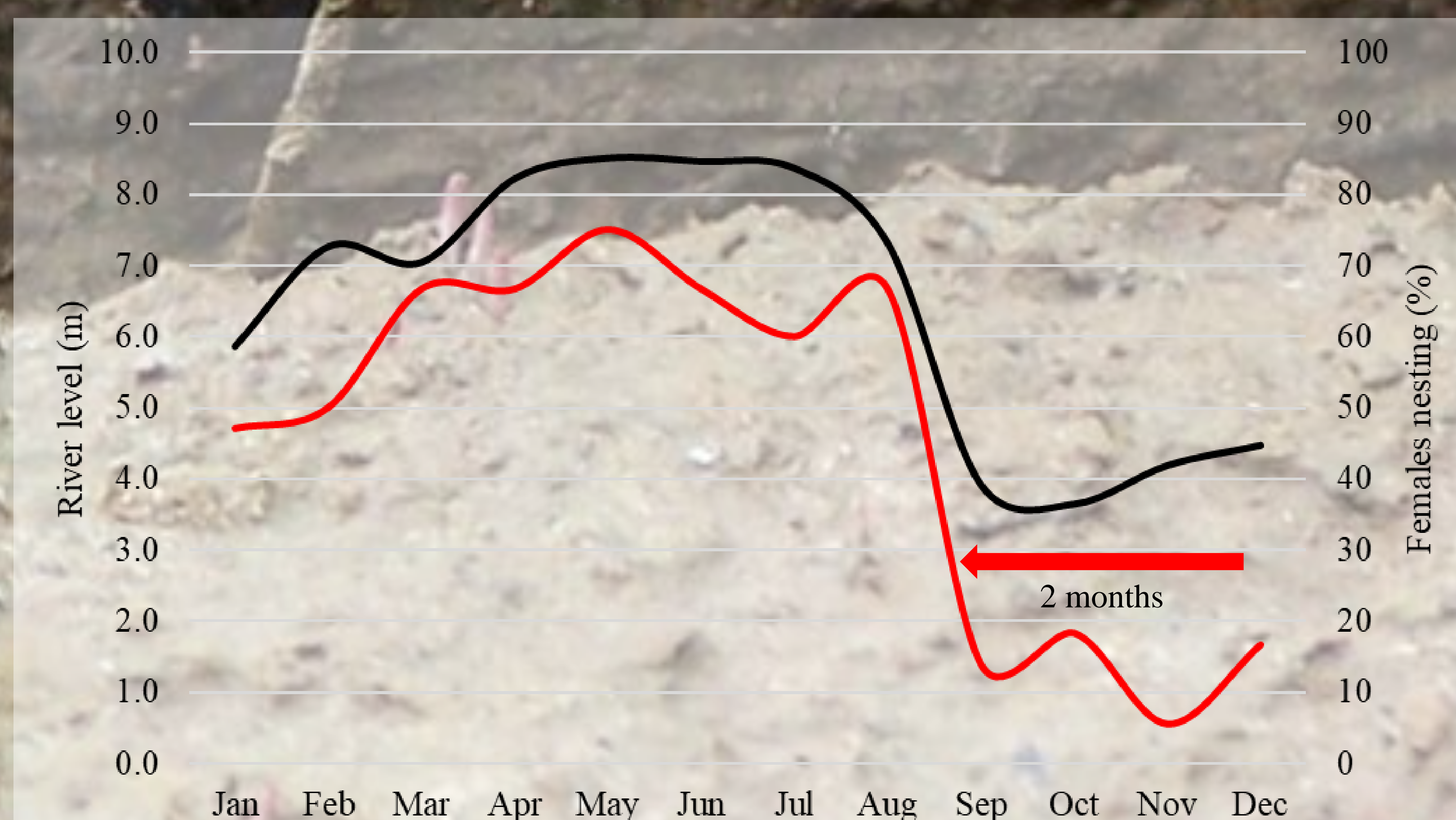
Figure 3: Monthly percentage of females in the spawning phase (n = 72, red line) related to the river level (black line) once the 2-month mismatch has been eliminated.
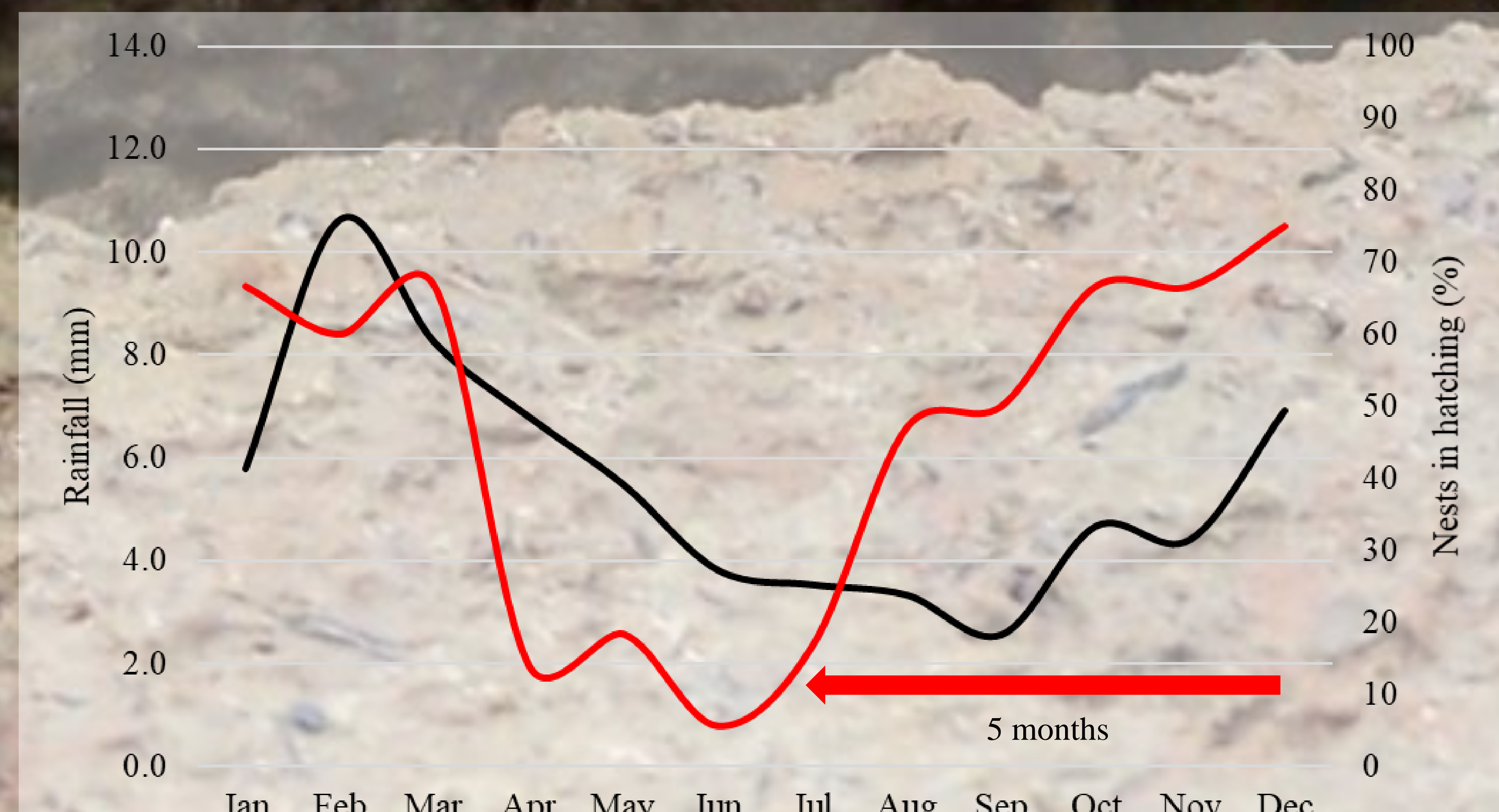
Figure 4: Monthly percentage of hatching nests (n = 72, red line) respect to rainfall (black line) in the Napo basin in the Peruvian Amazon, once 5 months mismatch was made.