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OBSERVATIONS ON THE HABITS, EGGS, AND
YOUNG OF *HYLA FUHRMANNI* PERACCA.

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The Bryant Walker Expedition to the Santa Marta Mountains, Colombia, in 1913, secured two adults and two broods of young of a large tree-frog which correspond so closely with the description of *Hyla fuhrmanni* Peracca¹ as to leave no doubt that they are to be referred to that form. The type specimen of *H. fuhrmanni* is a female bearing eggs, and it is stated that the eggs, thirty-three in number and averaging seven mm. in diameter, are glued to the back, and the young frogs about to hatch are devoid of tail. The writer studied the Santa Marta specimens in the field and secured notes and photographs which supplement the notes published by Peracca.

¹ Voyage d'Exploration en Colombia, pp. 108-110, Paris, 1914.

The Santa Marta specimens are both females bearing eggs, and they were found in similar situations—on the steep bank of a mountain stream at an altitude of 4,500 feet on the mountain of San Lorenzo. One was in a niche in the rock about ten feet above the water, the other was in a hollow in a bank of earth about seventy-five feet above the stream (Fig. 6).

One of the females taken was found on July 13, and carried on the back twenty-eight pale yellow eggs, in each of which the embryo can be easily distinguished as a dark streak lying in a deep groove in the enormous yolk (Figs. 4 and 7). These embryos have the head, limb buds and tail differentiated, the tail being short and filamentous in form. On each side of the neck a large gill membrane arises and is spread over the anterior quarter of the egg, the two membranes together covering practically the anterior half of each ovum (Fig. 2).

The embryos on the second female (Fig. 5), taken on July 22, twenty-one in number, had reached the time of hatching and during the ensuing forty-eight hours the young were observed to leave the egg. During this time the young frogs struggled about within the egg membranes at intervals, and through these struggles each finally ruptured the membrane and thrust its head through the rent. They did not at once leave the nurse, but remained upon her back, the hind limbs enveloped in the ruptured membranes. Within one or two hours after hatching, two or three of the young had left the nurse, but whether voluntarily or owing to the movement of the nurse was not determined.

The young frogs at the time of hatching (Figs. 1 and 3), do not have even a rudiment of tail, are about 10 mm. in length,

have well developed discs, and possess a prominent rudiment of a gill membrane on each side of the neck. The color is pale yellow, more or less speckled with light reddish brown, the punctulations often grouped to form cross bars on the femora and, occasionally, irregular blotches on the body. As stated by Peracca the eggs are glued to the back of the nurse frog by a gelatinous substance. On the sides of the body of the nurse the skin forms a fold against which lie the outermost eggs, but this fold is not reflexed to form even a rudimentary pouch.

In captivity one of the adults fed freely upon individuals of the small frog *Prostherapis subpunctatus* Cope.

PLATE I.

- Figure 1. Recently hatched individual, showing relative size and form of gill membrane rudiments. Enlarged 2.3 times.
- Figure 2. Embryo removed from egg membrane; right gill membrane slightly raised, left gill membrane in position. Enlarged about 4.5 times.
- Figure 3. Embryo just previous to the time of hatching, showing the relative size of the gill membranes. Enlarged about 5 times.
- Figure 4. Photograph of living female bearing eggs. Reduced about $4\frac{1}{2}$ times.
- Figure 5. Photograph of living female with young emerging from the eggs. About $\frac{1}{4}$ natural size.
- Figure 6. Cavity in which one of the females was found.
- Figure 7. Photograph of living female bearing eggs. Reduced about 2.7 times.



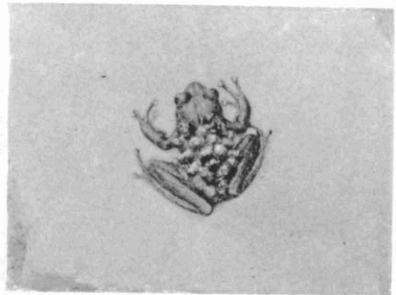
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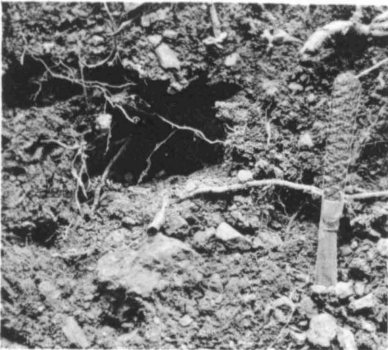
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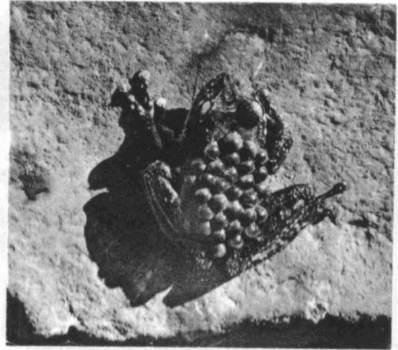
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