

On the Biological Clock of the Atlantic Bushmaster, with Regard to Reproduction

Rodrigo C. G. de Souza
Serra Grande Center for *Lachesis muta* Breeding
Itacaré/Bahia
BRAZIL
lachesisbrasil@hotmail.com

Introduction

In the March 2007 CHS *Bulletin* [42(3):41-43], we published some thoughts about our experience with captive reproduction of the Atlantic bushmaster, *Lachesis muta rhombeata*. In that account we stated that since we couldn't discern any size (thus age) classes in the animals we have encountered in the wild over the past six years, we have started to have doubts about the idea of a "breeding season."

With regard to South American bushmasters, there is a theory, matching reports of native people, that September–October is the time of year in which one is most likely to observe "couples" in the wild. The rationale behind this is that egg-laying would then occur in the dry summer season, some 100 days after sexual intercourse. Under this theory then, such a breeding season has evolved to ensure the highest possible survival rate for the newborn. In support, we have found eggs on 13 December and 4 January, when flooding is not common.

However, the lack of detectable size classes mentioned above, and also the fact that an actual mating was recorded in our facility on 4 January 2007, projecting egg-laying for rainy April, began to disturb what previously had seemed certain to us: that the biological clocks of these females would trigger hormonal response only during a 60–90 day stretch beginning in mid-August, when the first cold front hits the area, bringing sudden temperature drops and a rise in humidity levels.

Materials and Methods

This attempt to record mating at some "odd/unusual" time of year for South America, such as April, May or June, required a large enclosure of 24 m² within the Atlantic Rain-

forest, in prime *L. muta* territory. This enclosure, unlike all others we had built before, had no tunnels that could hide most of the activity, since our main goal was to photograph sexual activity, something never before done for *L. m. rhombeata*.

Two males and one extremely healthy, outstanding female (total length 2.30 m), were put together in this room in the end of April. And on 29 May 2007, 1500 h (yes, daylight), 77°F, 80% relative humidity, we recorded the accompanying images. As far as we know, these are the only pictures ever taken of *rhombatas* "locked-up." I could have done a better job of photography, but I chose not to disturb the animals by completely opening the entrance door and using the flash.

Conclusion

We do not know for sure if eggs are on the way, but August and September, when egg laying would take place, is not a "dry and safe" period for them around here. So, are nature's stakes based primarily on quantity? Is the biological clock set up so that a few times a year, the rare encounter of a fit pair will result in the prospect of new individuals?

Further observation will give us the answer, but undoubtedly our personal certainties are shaken. These cool-adapted creatures seem to remain reproductively active all year long in the last 7% that still remains of their natural habitat.

Acknowledgments

To Polly Matzinger, mother of the "Danger Model," who taught us that more important than to look for answers is to look for a good question to test/ask. And to the non-governmental organization, YONIC, that has financed Serra Grande.

