

SCOOP!



A SPHYNX IN **WOLF'S CLOTHING**

A RARE ENCOUNTER
WITH A STUNNINGLY REALISTIC
SNAKE-MIMIC CATERPILLAR
IN THE PERUVIAN AMAZON RAINFOREST
OF TAMBOPATA NATURE RESERVE

Two close-up portraits of the *Hemeroplanes ornatus* caterpillar show its incredibly realistic imitation of the anterior third of an arboreal snake.

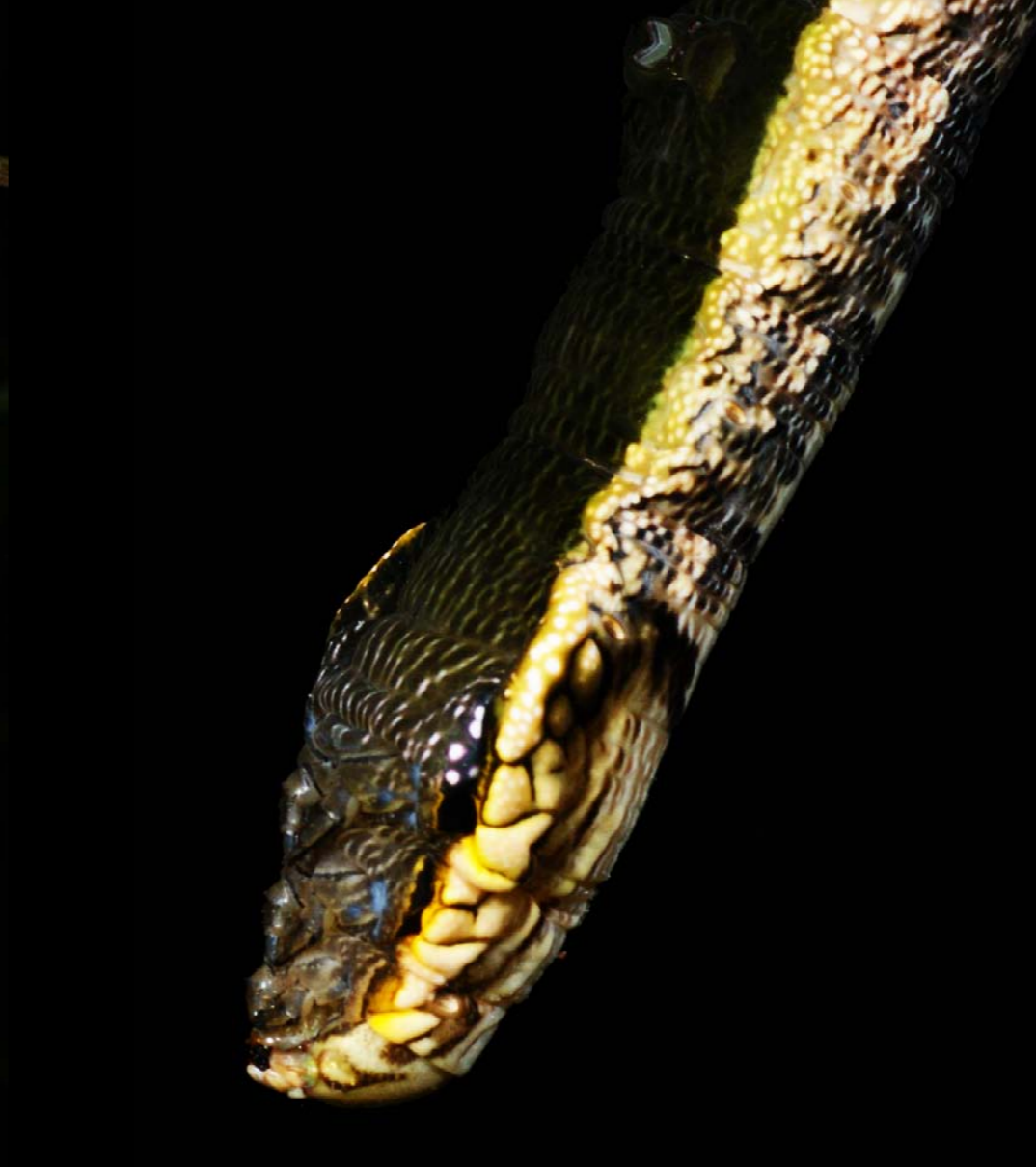


A full-body portrait of the specimen reveals the illusion. Widespread throughout Central and South America, the moth and caterpillar of *Hemeroplanes ornatus* are however very rarely encountered.

I have long been fascinated by mimicry in nature - the idea that natural selection has allowed one species to take advantage of the defences of another, often in a spectacular and intimately precise fashion. The beauty of mimicry, of course, is that the individual benefits by deceiving potential predators into thinking that it is something else. This tends to be something inedible, distasteful, dangerous, or simply something that is difficult to see. The individual profits from its misleading appearance, without the 'cost' of actually having to be poisonous or dangerous. In my travels through the tropical forests of the world, I have found such deception in abundance, particularly amongst the insects. Many people will be familiar with the cricket-like katydids superbly mimicking live, dead or decaying leaves; or harmless king snakes and milk snakes matching the colors and patterns of their distant but deadly relatives - the coral snakes. The most common forms of mimicry appear to be invertebrates emulating either plants or other invertebrates. Until recently, I was unaware of examples of invertebrates impersonating a completely different class of animals such as large vertebrates.

In October 2011, my wife and I were walking at night in tropical humid forest within the Tambopata National Reserve. Tambopata is a 1.4 million hectare reserve encompassing a tract of the Amazon Basin in south-eastern Peru. Like much of the Amazon, Tambopata has a very high diversity of insects, and is home to over 1300 species of butterfly alone. As we walked slowly along the edge of a trail I noticed a large, dark green and brown, but otherwise non-descript caterpillar clinging to a small branch. As I moved in to inspect it a little closer, I accidentally bumped the branch on which it was sitting. As soon as it detected the movement of the branch, the caterpillar sprang to life! Its head and front legs immediately retracted, the front of its body dropped downwards, hanging in the air, and within an instant the front of the body had flattened and inflated to a considerable size. Eyespots seemingly appeared from nowhere on either side of its new "face", and the whole creature swayed threateningly. Even the texture of its skin appeared to change within seconds, to become less

like the velvety skin of a caterpillar, and more scaly in appearance. Although I knew I was looking at a caterpillar, it was difficult to deny that I now seemed to be confronted with a convincingly real snake! This was *Hemeroplanes ornatus*, a Sphinx Moth caterpillar widespread throughout Central and South America. Despite its broad distribution, the moth and caterpillar are very rarely encountered. In addition to looking like a credible snake, if it continues to be threatened it will "strike" menacingly at its harasser. The snake upon which *Hemeroplanes* is modeled is unknown, although some authors have suggested the venomous Amazonian Palm Viper *Bothriopsis bilineatus*. However, my immediate thought upon seeing the caterpillar was its striking resemblance to the green colour form of the Amazon Tree Boa *Corallus hortulanus* - complete with heat sensing pits along each side of the head. For me, this was mimicry at its finest - a startling example of how a handful of species have mastered the art of deception, and relied on the appearance and reputation of something entirely different to ensure their own survival. ●



Careful observation of the caterpillar shows that the snake mimicry effect is in fact obtained presenting the ventral - and not the dorsal - face of the body to the intruder. The resulting illusion - that of a snake suddenly emerging from the foliage - is quite realistic and must be rather startling to a would-be predator.

