Amazonian bird chicks mimic poisonous caterpillar to avoid detection

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Laniocera hypopyrra. Credit: Santiago David-Rivera

(Phys.org)—A trio of researchers has found and documented the case of

a newly hatched bird with plumage that mimics a poisonous caterpillar to ward off predators. In their paper published in *American Naturalist*, Gustavo Londoño, Duván García and Manuel Sánchez Martínez, describe finding the young birds and observing their habits while in their nests.

Scientists have discovered a number of creatures that mimic other species to protect themselves from predators, but until now, no evidence for it has been found in birds, (aside from one that makes a noise like a rattlesnake). The team found that cinereous mourner (*Laniocera hypopyrra*) chicks are born with bright orange coloring that very closely resembles one of two large, hairy toxic caterpillars (*Podalia or Megalopyge),* and even behave like them while in the nest. The adults, on the other hand, are rather bland with mostly grey feathers.

In reality, it's not just the coloring of the chicks (bright orange down lined with black ridges and tipped white barbs which also serve as camouflage) that is so convincing, it's also the shape (and size at approximately 14 cm compared to 12 cm for the real caterpillar) and nuances of the feathers—the chicks look so much like the caterpillars that no one until now ever knew about their mimicry. They also act the part, weaving and bobbing to capture the way a caterpillar moves and keeping non-caterpillar looking parts tucked underneath their bodies until their mother comes back (which is only every hour or so, a very long time for birds) with food—but even then, they don't blow their disguise—they wait for a special signal from the mom letting them know that it's really safe to reveal their true nature.

The researchers suggest the species has evolved its unique ability because of the low rate of chick survival in the Amazon area in general (approximately 20 percent). Also, it takes the chicks almost three weeks to develop enough to fly, which leaves them extremely vulnerable, as does the nest, which is little more than some leaves pushed into a bowl

shape resting on the forest floor. In watching the chicks for a period of time, the researchers found that the ruse appears to work, as the chicks demonstrated a higher than average survival rate for chicks in the Amazon.

More information: Morphological and Behavioral Evidence of Batesian Mimicry in Nestlings of a Lowland Amazonian Bird, The *American Naturalist*, Ahead of Print, www.jstor.org/discover/10.1086/679106?uid=3738736

Abstract
Because predation is the main cause of avian nest failure, selection should favor strategies that reduce the probability of nest predation. We describe apparent Batesian mimicry in the morphology and behavior of a Laniocera hypopyrra nestling. On hatching, the nestling had a distinctive bright orange color and modified feathers all over its body, and 6 days after hatching, it started to move its head very slowly from side to side (in a "caterpillar" movement) when disturbed. These traits gave it a resemblance to a hairy, aposematic caterpillar. This species has a long nestling period for its size (20 days), perhaps due to slow provisioning rates (about one feeding per hour). We argue that the slow growth rate, combined with high nest predation, favors the evolution of antipredation mechanisms such as the unique morphological and behavioral characteristics of L. hypopyrra nestlings.

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