An Old World bird in a New World rainforest

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A Sapayoa emerges from its nest in the Panamanian rainforest. Credit: J.M. Hite

The Sapayoa, a rainforest bird from Central and South America, is an evolutionary enigma—genetic analysis shows that its closest relatives are bird species living across the ocean in Asia and Africa. Now, new research in *The Auk: Ornithological Advances* demonstrates for the first time that its natural history links it to its evolutionary relatives thousands of miles away.

How the Sapayoa ended up so far from other members of its lineage remains a mystery, and little is known about its reproductive biology or social behavior. However, new field work in Panama by Sarah Dzielski and Benjamin Van Doren of Cornell University and their colleagues reveals that Sapayoas consistently build nests that hang over the water along ravine-bottom streams. One of the active nests they observed was attended by a family group comprised of an adult male and female and two immature males, all four of which brought food to the two chicks. The researchers were surprised by the social behavior they observed, which included mounting between individuals of the same sex, possibly to establish dominance and maintain social cohesion.

These are the first extended observations of Sapayoa breeding behavior, and they provide hints at how this unusual bird is connected with its roots. Many of the Sapayoa's Old World relatives are cooperative breeders, getting help from family groups, and the pear-shaped hanging nest also is consistent with Old World "suboscines," the group of birds to which Sapayoas belong.

Dzielski, Van Doren, and their colleagues Jack Hruska and Justin Hite searched for Sapayoa nests as part of an expedition to Panama's Darién National Park in summer 2014, observing the family group at their focal nest for more than 70 hours over ten days. "Nest searching was always an adventure," says Dzielski. "We found countless abandoned nests, and while checking inside for eggs or evidence that the nest was active, we found all sorts of surprises. In a few instances, a large grasshopper the size of a mouse hopped out from under the flap and scared the daylights out of us!"

"The Sapayoa is so different from other passerine birds that it is currently placed in its own family, Sapayoidae, but relatively little is known about its natural history," adds Van Doren. "This gap in scientific knowledge was the reason we traveled to eastern Panama to learn about

this enigmatic species. We hoped that more information about the Sapayoa's natural history would cast its surprising evolutionary relationships in a new and clearer light."

"The Sapayoa has long been a mystery bird. When my colleagues and I identified it as the only Old World suboscine in the New World in 2003, it only became more mysterious," says Jon Fjeldså of the University of Copenhagen, who led the research team that first identified the Sapayoa's unusual origins. "How did it arrive in South America? Why does it resemble a manakin? And does it still behave like an Old World suboscine? I am excited to learn that it indeed does!"

More information: "Reproductive biology of the Sapayoa (Sapayoa aenigma), the 'Old World suboscine' of the New World" will be available April 27, 2016 at www.aoucospubs.org/doi/full/10.1642/AUK-16-5.1

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