Researchers discover new species of 'ventriloquist' bird in Philippines

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(Phys.org) —Birds are subjects of great interest to many people. They are often easy-to-spot, charismatic and beautiful. Because of this interest, birds tend to be well-studied, and most years see only a handful of new bird species discovered and described in scientific journals.

However, this past year has seen 23 new birds described so far.

Remarkably, three of those new birds have been introduced to science by researchers at the University of Kansas' Biodiversity Institute. And a KU graduate student in ecology and evolutionary biology, Pete Hosner, has co-authored two of those.

"I think these discoveries reflect the opportunities I've had to work in tropical forests, where most new bird species are found," said Hosner.

"Since I began my doctorate in 2007, KU ornithology has had active field research in Central and South America, Africa, Asia, Australia and Oceania. Even though undescribed bird species are a rare find, with such a broad search radius, new things are bound to turn up."

The KU researcher's most recent find is dubbed the Sierra Madre Ground-Warbler, a ground-dwelling forest bird that lives on Luzon Island of the Philippine archipelago. Its description is published in the August issue of *The Condor*, a scientific journal of the Cooper Ornithological Society.

"The ground-warblers are very unique birds," said Hosner. "They're only known from the northern Philippines, and they have no close relatives. As the name suggests, they're ground-walking songbirds—rotund, with strong legs and weak wings—and it appears that they can barely fly. They tend to inhabit dense forest understory, where they feed on insects. Their song is extremely high in pitch, and ventriloquial—it's almost impossible to locate the source of the sound in the forest—they always sound like they are far away, even when they are almost at your feet."

Hosner said the new species of ground-warbler looks similar to the other two species of ground-warblers in the Philippines, so it wasn't recognized as an independent species at first.

"The three species of ground-warblers now recognized are essentially identical in size, shape and juvenile plumage coloration held in their first year of life, but they differ from one another in adult plumage coloration," he said. "The reason that this new species remained undescribed for so long was that the adult plumage of the very first ground-warbler to be described was unknown. That species, Cordilleran Ground-Warbler, was documented only from a single juvenile until our recent fieldwork. As a result, the 'discovery moment' was when we saw an adult individual of the known species."

Examination of its DNA was key to differentiating the new ground-warbler once it was spotted in the field. The DNA sequence data was collected in KU Biodiversity Institute's Molecular Phylogenetics Laboratory, which was recently renovated with investment from the National Science Foundation, the state of Kansas and KU.

"When we noted the different plumage coloration between adult birds in the Cordillera and the Sierra Madre in northern Luzon, we sequenced DNA to determine if the plumage differences were individual variation within a species, or if the two plumage forms were also genetically diagnosable," Hosner said. "We found that Cordillera and Sierra Madre birds were highly divergent in their DNA, almost as different as the distinctive Bicol Ground-Warbler in southern Luzon."

However, it was the basic legwork of searching in the field for new birds that ultimately brought the Sierra Madre Ground-Warbler to the attention of the world.

"Most of the authors participated in fieldwork in the Philippines,"

Hosner said. "Working in the Philippines is awesome. We hike out into the forests and establish field camps—usually about two weeks per site —where we survey the birds and other organisms. No electricity, no road noise, just the forest. Usually it's hot, sweaty and dirty work, but we always camp near a stream for a water source, which helps. Sometimes our visits coincide with typhoons, which adds some excitement, especially when you are trying to keep your tent dry. One of the sites where we found the Sierra Madre Ground-Warbler, Mount Cagua, is an active volcano with thermal vents and mud pots."

The new bird species' scientific name honors Max Thompson, a retired professor from Southwestern College in Winfield and a research associate in the KU Biodiversity Institute.

"He received his master's degree from KU in the '60s for his studies on the birds of Borneo, and he has conducted avian research on every continent," Hosner said. "When Max retired a few years ago, his extensive research collection came to the KU Biodiversity Institute. We wanted to name the bird after Max for his decades of avian research around the world and thank him for his contributions to KU ornithology."

Hosner's co-authors are Nikki C. Boggess, Carl H. Oliveros and Robert G. Moyle from KU's Biodiversity Institute and Department of Ecology and Evolutionary Biology; Luis Sanchez-Gonzalez from KU's Biodiversity Institute and the Universidad Nacional Autónoma de Mexico; Phillip Alviola from the University of the Philippines Los Baños; and Rolly Urriza from the Philippine National Museum.

Provided by University of Kansas