Hidden in Plain Sight

Author: Lundmark, Cathy

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SURPRISING SALAMANDER FIND

When Stephen Karsen takes his students at the Taejon Christian International School, in Korea, on field trips, they look under rocks to see what they might find. In April 2003, he discovered a new species of salamander while hiking alone in the woods on Changtaesan (*san* means "mountain" in Korean). "I found it under a rock in the woods and knew the moment I picked it up that it had to be at least a new record for South Korea—or possibly completely new."

Not only is the Korean crevice salamander ("Ikkee dorongyong" in Korean) a new species, it is the first lungless salamander ever reported in Asia. Most plethodontid salamanders are found in North and South America, though there are a few species known from the Mediterranean. Korean and American scientists who described the newest member of the family Plethodontidae named the new species *Karsenia koreana* after Karsen and the Korean peninsula (see the 5 May 2005 issue of *Nature*). A photograph of *K. koreana* taken by David R. Vieites graces this month's *BioScience* cover, and a Forum article on amphibian discoveries, by Jörn Köhler, Vieites, and others, begins on p. 693.

K. koreana are relatively small (6 to 10 centimeters, including the tail) and live in moist, shaded woods with dark, rocky soil, habitat that, Karsen says, "is fairly widespread in some areas of Korea, and further localities will undoubtedly be found." On a class field trip, students Scott Brachmayer, Eddie Lee, and Sammy Park found the species in another location; the species was found later in three more localities.

"They are relatively easy to find if you search in the right places," says Vieites, a postdoctoral fellow at the University of California–Berkeley and coauthor of the article. Vieites traveled to Korea in May to delimit *K. koreana*'s distribution and found "that it is wider than we thought."

"Right now there are 21 known localities for the species," Karsen says, "and it is anywhere from common to abundant in 7 of these localities, and likely more common in other areas than is currently known, due to its habit of retreating deeper into rock flakes and soil when conditions are drier and hiding under surface rocks and debris when conditions are moist."

Although the status of the species has yet to be determined, *K. koreana* doesn't appear to be threatened. "Some habitat is already protected in three national parks and several city greenbelt areas (of which Changtaesan is one)," Karsen says. "Other parks will almost certainly be found to contain this species."

The effort to find other plethodontid species will increase as well, certainly in Korea but also in other parts of Asia.

"The big mystery is China," Vieites says. "Next year we are planning to search in that country for the presence of plethodontids. We have plethodontid salamanders in the Americas, the Mediterranean (Sardinia and Italy), and now in Korea. Why not in other parts of Asia? After this discovery, that is a very realistic possibility."

NEW FAMILY OF RODENTS DISCOVERED

Roughly 3000 kilometers to the southwest of Karsen's discovery (and five years earlier), two scientists independently surveying the Khammouan province in the south of the Lao People's Democratic Republic (PDR) made another remarkable find. Robert Timmins, working for the Wildlife Conservation Society (WCS) at the time, discovered odd-looking rodents for sale in a local market; Mark Robinson, with the World Wide Fund for Nature (formerly the World Wildlife Fund) Thailand, pieced together his discovery from heads provided by local hunters, photographs and observations of specimens on sale for food, and bone fragments found in owl pellets.

Captured only at night on rocky slopes of limestone karst formations, Laotian rock rats ("kha-nyou" to the locals) are presumed to be nocturnal. The specimens collected by Timmins and Robinson were sent to Paulina Jenkins, with the Natural History Museum in London, who identified them as a new genus and species, *Laonastes aenigmamus*, on the basis of distinctive morphological characteristics.

The new species, described in the April 2005 issue of *Systematics and Biodiversity*, presented such a unique combination of features that it was difficult to place among rodent groups. C. William Kilpatrick, at the University of Vermont, analyzed mitochondrial DNA sequences, and the combination of morphological and molecular data led to rock rats being assigned their own family, Laonastidae. The new group adds another wrinkle to the already puzzling biogeography of hystricognath rodents (the group that includes porcupines, chinchillas, cane rats, and guinea pigs), known mostly from Africa and South America.

So little is known about rock rats that their conservation status is undetermined. The harvesting of wildlife for food and income is common in countries as economically depressed as Lao PDR, and it is through the efforts of WCS and others working with local communities to promote conservation and prevent overhunting of wildlife that the animals are now known to exist.

Cathy Lundmark (e-mail: clundmark@aibs.org).