

September NATURAL HISTORY 1952

South America's Golden Man · Giant Toad · The Cahow

How a Mosquito Bites You · Mysterious Hand Animal

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From a color photograph by Josef Muench

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THE COVER THIS MONTH

The sandpainting art of the Navaho Indian shepherds who inhabit the Southwestern deserts is unusual among folk arts since it is associated almost exclusively with the curing of illness. Here the medicine man adds the finishing touches to figures representing the Holy People, important Navaho deities, in order that his patient may be placed in closer communion with these powerful supernaturals. During most chants the patient sits on the painting, which is always destroyed and swept up at the conclusion of the ceremonial.

Sandpaintings are made of colored sands, charcoal, pollen, corn meal, and even flower petals. They range in size from a foot in diameter to some 20 feet or more, and large ones require the assistance of 15 men working all day. Although in this case the medicine man is aided by a woman, women rarely help to make sandpaintings unless they are learning the ceremonial. More than 500 different sandpaintings have been recorded, and probably many more exist.

HARRY TSCHOPIK, JR.

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A strange tale led to an exciting search and to the finding of what may well prove to be the Gargantua among South American toads

Discovery of a GIANT TOAD

By Rolf Blomberg

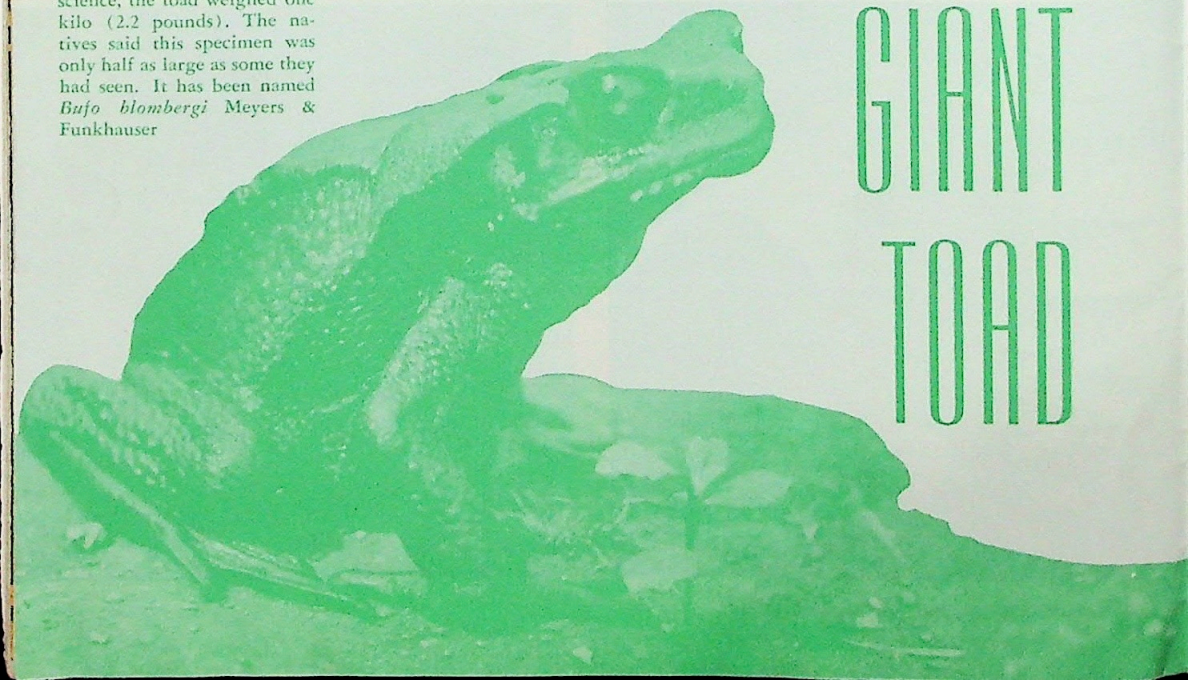
All photos by the author

FOR some reason, a frog hunter is not resplendent with the same glory as, for example, a jaguar hunter. Indeed, there were some people who laughed heartily when I announced that I was setting off to Colombia on a frog hunt. I wanted to find out whether there was any truth in some sensational rumors—sensational from a naturalist's point of view, anyhow—that a frog or toad of gigantic size was still hopping around undiscovered in the southwestern part of that country.

The first person who told me about the giant frog was a Colombian whom I met in the Galápagos Islands. We were making long trips together into the interior of Indefatigable Island, collecting zoological material and taking moving pictures. The Colombian was an excellent companion and also proved to be a keen observer, supplying me with much interesting information on the unusual fauna of the islands. My surprise was therefore great when he told me about the giant frog, which he claimed to have seen in the province of Nariño in southwestern Colombia, saying that he estimated its weight at two quintales—that is, two hundred pounds!

In a tactful way I tried to make him bring the figure down some 190 pounds, but he was inflexible. His statement was, of course, unbelievable. Such a monster could not possibly exist. But I decided to investigate, for I had a notion that there must be *something* behind the story, since my informant was otherwise such a truthful person. Where there is smoke there is apt to be fire, and some of the most interesting things in nature have eluded science.

Were not all the rumors about the world's largest lizard, the dragon-like *Varanus komodoensis* of the Lesser Sunda Islands, dismissed for many years as mere fantasy? It was not until 1912 that naturalists finally got irrefutable proof of this animal's existence. And the world's largest frog, the African *Rana goliath*, had to wait almost as long to be discovered. This enormous amphibian, which according to description is as large as a medium-sized terrier, lives in the deep, slug-



➤ Previously unknown to science, the toad weighed one kilo (2.2 pounds). The natives said this specimen was only half as large as some they had seen. It has been named *Bufo blombergi* Meyers & Funkhauser



▲ WHEN offered ten pesos per specimen, the villagers said, "The cost of living is so high nowadays that people are even paying for frogs!" But this native of Nachao brought in a toad worth looking at

gish rivers in southern Cameroun and in the Gabon district in French West Africa. It is only caught by natives fishing when the level of the water is specially low after a long period of drought. The Negroes eat the large frog with gusto, and its "thighbones" are highly coveted for use in magical rites. As a result, only a few complete specimens have reached museums.

That South America's immense and still partly unexplored jungle regions, which extend from Colombia in the north to Argentina in the south, might still conceal a frog as large as *Rana goliath* was, of course, not impossible. As a matter of fact, no other part of the world presents such a variety of batrachians as tropical America.



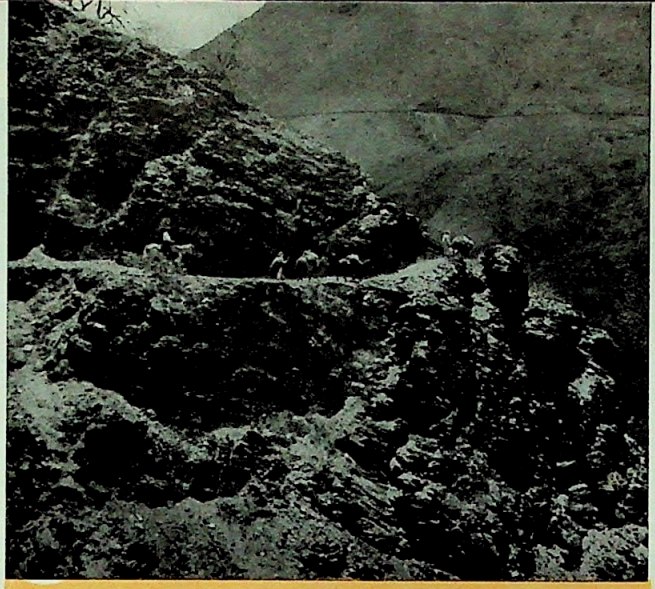
THE AUTHOR was lured to southwestern Colombia by stories of a mammoth frog that might rival Africa's *Rana goliath*. Eight giant frogs like this one in the town of Pasto seemed to strengthen the possibility

Further investigations partly confirmed my first information. In Quito, Ecuador, I met two Colombians who had traveled in the region where the mammoth frog was supposed to live. Both testified that a frog or toad of huge size was to be found here, much bigger than the large forest frog *Leptodactylus* or the great horned toad *Ceratophrys*,* which attain a weight of one pound each.

So chance was beckoning, and although I was still feeling a certain skepticism, I decided it was worth while to find out whether the giant amphibian existed or not. My friend John W. Funkhouser, of the Stanford Museum of Natural History, who had come to Ecuador for a few months to study the batrachians of the equator, gave me some encouragement. He considered the existence of a still undiscovered South American giant toad or frog quite possible.

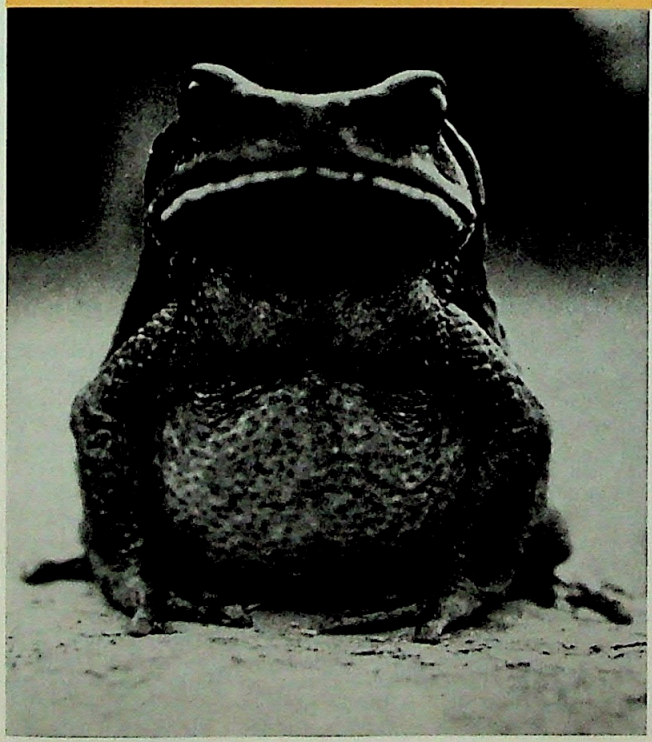
The small town of Pasto at the foot of the Galeras volcano in south-

* This is, indeed, the real horned toad, not to be confused with the North American lizards of the genus *Phrynosoma*, popularly called horned toads.



▲ A NARROW AND DANGEROUS mule trail led down the western slopes of the Andes to Policarpa

▼ GLANDS on both sides of the toad's neck exuded a creamy fluid, which proved to be poisonous



ern Colombia was the starting point for my collecting trips both to the east and west. The fact that a couple of fountains on one of Pasto's squares were embellished with eight giant frogs seemed a good omen. Naturally, I hoped that these sculptures had been inspired by real animals. In darker moments, I realized that they could just as well have been the *cause* of the rumors!

According to my Colombian friend in the Galápagos, the monsters had their haunt in a small lake near a village with the odd name of El Castigo—"The Punishment." To locate the village required some detective work; I could not find it on any map. No wonder. It proved to be only a couple of tiny mud houses, though I was told that its population had been considerably larger some years before. At last I was able to mark El Castigo on my map and start down the western slopes of the Andes.

First I went a considerable distance by bus. Then I walked an entire day over an unpleasantly narrow and dangerous mule trail which wound down toward the coast, bordering dizzy abysses. This is definitely no trip to be undertaken by anyone inclined to giddiness. I had joined a mule caravan that was going my way, and although mules are famous for their ability to pick their way like goats over the worst kind of country, the animals more than once came near losing their footing here. One of the mule drivers told me that he had already lost six animals on this trail; and as evidence of the danger, we saw deep down at the bottom of an abyss the carcass of a horse or mule completely covered with feasting black vultures.

In the village of Policarpa, where it was easier to get accommodations than in the neighboring El Castigo, I set up my headquarters. I had not been there many hours before the news of a "crazy gringo hunting for frogs" had spread like wildfire in the village. My presence caused great wonder and no less merriment.

When I promised to pay the



➤ THREE of the author's assistants, amid the gigantic foliage of the tropical forest

whole of ten pesos for each faultless specimen weighing more than four pounds, one of the villagers said, "The cost of living is so high nowadays that people are even paying for frogs!"

The information I gathered from the villagers about the giant frog varied widely. Some could swear they had seen frogs weighing at least one arroba – twenty-five pounds; others declared that the largest specimen only attained a weight of four to five pounds. However, all agreed that the latter certainly existed.

But I was told that I had selected the worst time of the year for my frog hunt. The season was now at its driest; no rain had fallen for months. It used to be very different, they told me, when the jungle grew thick around Policarpa and El Castigo. The climate had become drier as a result of unscrupulous burning, which had devastated the jungle growth. The little lake at El Castigo—the one where my informant had seen the giant frogs—was completely dry. Only during the rainy season could it be called a lake. I was advised to come back in the rainy season. "Then," they said, "the frogs will croak and make so much noise at night that you will have to yell to make yourself heard!"

I had come a long way for the sake of finding a giant frog and was not happy at the thought of returning without a good try. In the ravines, particularly around the creeks, which were overgrown with thick jungle vegetation and difficult to get to, there ought to be frogs and toads even during the dry season. So for several nights I made my way to these locations, and so did some of the villagers. With the aid of flashlights, we found a number of batrachians but no giants.

One morning, however, a man came from the village of Nachao, which lies a good bit lower than Policarpa, with a sack over his shoulder. "You are the gentleman who buys frogs, aren't you?" he greeted me and turned his sack inside out. With a thud, a large, ugly toad fell to the ground.

"Sure, this is a *sapo saíno*, the kind we are looking for," said the villagers. All the people, including the one who had caught it, agreed that this was a small specimen; ones at least twice this size and even larger existed.

My toad weighed one kilo (2.2 pounds). That it belonged to the *Bufonidae*, the toad family, was evident; but judging from its shape and colors, it was not a *Bufo marinus*, the largest South American toad known to science.

Most of the villagers showed a superstitious fear of the toad. Some declared that one could get bad eczema and boils from touching the creature, others that it was snappish, still others that just the sight of it brought bad luck! They told me about "another crazy gringo" who had eaten a *sapo saíno*, "probably believing it to be a turtle." He had swollen up like a balloon and had been deathly ill for many days.

The statement that the toad could cause eczema might not have been superstition. A creamy fluid secreted from glands on both sides of the neck looked repugnant and dangerous, and later examination proved it to be poisonous.

In the same region there also existed some small, rather dangerous frogs, the beautifully orange-colored *Phyllobates* and *Dendrobates*, which have a very poisonous secretion on the skin. The Choco Indians in northwestern Colombia are said to stew these frogs to obtain a deadly poison for their arrows. I secured one of these nasty little creatures to include in my collec-

tion from southwestern Colombia.

The rich reward I gave the catcher of the one-kilo toad was a spur to greater effort, and the whole village went toad hunting the following nights. But all in vain.

"It's much too dry now," they said. But they promised that if I came back when the rains had set in, they would catch more *sapos* than I could transport back to Pasto.

My disappointment was great as I traveled back to Quito with my goggle-eyed toad. I had really hoped to find a batrachian of considerably larger size. But when I met Dr. Funkhouser and showed him my prize, he was very excited.

"What more do you want?" he said. "You have probably discovered the largest toad in the Americas."

Soon after, Dr. Funkhouser returned to California, and he took along my toad in order to examine it carefully in comparison with others. After a couple of months, he wrote me; and I must say I was thrilled to read what he had to say: "Dr. Myers and I have now worked on your toad, and I am glad to inform you that it is a new species. If, according to the supposition of the local people, you can find one of double size, this will break the toads' world record, *Bufo asper* of Malaya being the only competitor . . ." Of course, the toads would still have to bow to the African frog, *Rana goliath*, but we were really making progress.

The good news sent me off on a second expedition. This time, I traveled farther west and entered quite tropical regions. My catch this time was three toads, the largest of which measured slightly over 9 inches (230 mm.) from snout to vent. Thus in length it ties for first place with one other toad from South America—a *Bufo marinus* from British Guiana, now in the collection of the American Museum of Natural History—though the latter appears to attain greater bulk.

There is a good chance that still larger specimens will be found, because the people of the toad country continue to insist that they do exist.

I brought the three beauties back alive, and from Ipiales I sent them by air to the Bronx Zoo in New York, where they appear to be thriving.

This story proves that one should not completely dismiss all the strange stories one hears. Nature yields her secrets reluctantly sometimes, and there is much yet to learn about these giant toads.

▼ A LATER EXPEDITION farther west in Colombia resulted in the capture of three more of the giant toads. The head and body of one totaled nine inches in length

