

Forever

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Everything we know about dinosaurs comes from a skewed sample: the only specimens we have are of animals who happened to die at locations in which fossilization could occur; for instance, we have no fossils at all from areas that were mountainous during the Mesozoic.

Also, for us to find dinosaur fossils, the Mesozoic rocks have to be re-exposed in the present day -- assuming, of course, that the rocks still exist; some have been completely destroyed through subduction beneath the Earth's crust.

From any specific point in time -- such as what we believe to be the final

million years of the age of dinosaurs -- we have at most only a few hundred square miles of exposed rock to work with. It's entirely possible that forms of dinosaurs wildly different from those we're familiar with did exist, and it's also quite reasonable to suppose that some of these forms persisted for many millions of years after the end of the Cretaceous.

But, of course, we'll never know for sure.

-- Jacob Coin, Ph.D.

Keynote Address,

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Society of Vertebrate Paleontology

Five planets could be seen with the naked eye: Sunhugger, Silver, Red, High, and Slow; all five had been known since ancient times. In the two hundred years since the invention of the telescope, much had been discovered about them. Tiny Sunhugger and bright Silver went through phases, just like the moon did; Red had visible surface features, although exactly what they were was still open to considerable debate. High was banded, and had its own coterie of at least four moons, and Slow -- Slow was the most beautiful of all, with a thin ring orbiting around its equator.

Almost a hundred years ago, Ixoor the Scaly had discovered a sixth planet -- one that moved around the Sun at a more indolent pace than even Slow did; Slow took twenty-nine years to make an orbit, but Ixoor's World took an astonishing eighty-four.

Ixoor's World -- yes, she had named it after herself, assuring her immortality. And ever since that discovery, the search had been on for more planets.

Cholo, an astronomer who lived in the capital city of Beskaltek, thought he'd found a new planet himself, about ten years ago. He'd been looking precisely where Raymer's law predicted an as-yet-undiscovered planet should exist, between the orbits of Red and High. But it soon became apparent that what Cholo had found was nothing more than a giant rock, an orbiting island. Others soon found additional rocks in approximately the same orbit. That made Cholo more determined than ever to continue scanning the heavens each night; he'd rather let a meatscooper swallow him whole than have his only claim to fame be the discovery of a boulder in space ...

He searched and searched and searched, hoping to discover a seventh planet. And, one night, he did find something previously uncatalogued in the sky. His tail bounced up and down in delight, and he found himself hissing "Cholo's world" softly over and over again -- it had a glorious sound to it.

But, as he continued to plot the object's orbit over many months, making notes with a claw dipped in ink by the light of a lamp burning sea-serpent oil, it became clear that it wasn't another planet at all.

Still, he had surely found his claim to immortality.

Assuming, of course, that anyone would be left alive after the impact to remember his name.

"You're saying this flying mountain will hit the Earth?" said Queen Kava, looking down her long green-and-yellow muzzle at Cholo.

The Queen's office had a huge window overlooking the courtyard. Cholo's gaze was momentarily distracted by the sight of a large, furry winger gliding by. He turned back to the queen. "I'm not completely thirty-six thirty-sixths certain, Your Highness," he said. "But, yes, I'd say it's highly likely."

Kava's tail, which, like all Shizoo tails, stuck straight out behind her horizontally held body, was resting on an intricately carved wooden mount. Her chest, meanwhile, was supported from beneath by a padded cradle. "And what will happen to the Earth when this giant rock hits us?"

Cholo was standing freely; no one was allowed to sit in the presence of the Queen. He tilted his torso backward from the hips, letting the tip of his stiff tail briefly touch the polished wooden floor of the throne room. "Doubtless Your Highness has seen sketches of the moon's surface, as observed through telescopes. We believe those craters were made by the impacts of similar minor planets, long ago."

"What if your flying rock hits one of our cities?"

"The city would be completely destroyed, of course," said Cholo. "Fortunately, Shizoo civilization only covers a tiny part of the globe. Anyway, odds are that it will impact the ocean. But if it does hit on land, the chances are minuscule that it will be in an inhabited area."

The Shizoo lived on an archipelago of equatorial islands. Although many kinds of small animals existed on the islands, the greatest beasts -- wild shieldhorns, meatscoopers, the larger types of shovelbills -- were not found here. Whenever the Shizoo had tried to establish a colony on the mainland,

disaster ensued. Even those who had never ventured from the islands knew of the damage a lone meatscooper or a marauding pack of terrorclaws could inflict.

A nictitating membrane passed in front of Kava's golden eyes. "Then we have nothing to worry about," she said.

"If it hits the land," replied Cholo, "yes, we are probably safe. But if it hits the ocean, the waves it kicks up may overwhelm our islands. We have to be prepared for that."

Queen Kava's jaw dropped in astonishment, revealing her curved, serrated teeth.

Cholo predicted they had many months before the flying mountain would crash into the Earth. During that time, the Shizoo built embankments along the perimeters of their islands. Stones had to be imported from the mainland -- Shizoo usually built with wood, but something stronger would be needed to withstand the waves.

There was much resistance at first. The tiny dot, visible only in a telescope, seemed so insignificant. How could it pose a threat to the proud and ancient Shizoo race?

But the dot grew. Eventually, it became visible with the naked eye. It swelled in size, night after night. On the last night it was seen, it had grown to rival the apparent diameter of the moon.

Cholo had no way to know for sure when the impact would occur. Indeed, he harbored a faint hope that the asteroid would disintegrate and vaporize in the atmosphere -- he was sure that friction with the air was what caused shooting stars to streak across the firmament. But, of course, Cholo's rock was too big for that.

The sound of the asteroid's impact was heard early in the morning -- a great thunderclap, off in the distance. But Cholo knew sound took time to travel -- it would take three-quarters of a day for a sound to travel halfway around the world.

Most of the adult population had stayed up, unable to sleep. When the sound did come, some of the Shizoo hissed in contempt. A big noise; that was all. Hardly anything to worry about. Cholo had panicked everyone for no good reason; perhaps his tail should be cut off in punishment ...

But within a few days, Cholo was vindicated -- in the worst possible way.

The storms came first -- great gale-force winds that knocked down trees and blew apart huts. Cholo had been outdoors when the first high winds hit; he saw wingers crumple in the sky, and barely made it to shelter himself, entering a strongly built wooden shop.

A domesticated shieldhorn had been wandering down the same dirt road Cholo had been on; it dug in its four feet, and tipped its head back so that its neck shield wouldn't catch the wind. But five of its babies had been following along behind it, and Cholo saw them go flying into the air like so many leaves. The shieldhorn opened her mouth and was doubtless bellowing her outrage, but not even the cry of a great crested shovelbill would have been audible over the roar

of this storm.

The wind was followed by giant waves, which barreled in toward the Shizoo islands; just as Cholo had feared, the asteroid had apparently hit the ocean.

The waves hammered the islands. On Elbar, the embankments gave way, and most of the population was swept out to sea. Much damage was done to the other islands, too, but -- thank the Eggmother! -- overall, casualties were surprisingly light.

It was half a month before the seas returned to normal; it was even longer before the heavens completely cleared. The sunsets were spectacular, stained red as though a giant meatscooper had ripped open the bowl of the sky.

"You have done the Shizoo people a great service," said Queen Kava. "Without your warning, we would all be dead." The monarch was wearing a golden necklace; it was the only adornment on her yellowish-gray hide. "I wish to reward you."

Cholo, whose own hide was solid gray, tilted his head backward, exposing the underside of his neck in supplication. "Your thanks is reward enough." He paused, then lowered his head. "However ..."

Kava clicked the claws on her left hand against those on her right. "Yes?"

"I wish to go in search of the impact site."

The waves had come from the west. Dekalt -- the continent the Shizoo

referred to as "the mainland" -- was to the east. There was a land mass to the west, as well, but it was more than five times as far away. Shizoo boats had sailed there from time to time; fewer than half ever returned. There was no telling how far away the impact site was, or if there would be anything to see; the crater might be completely submerged, but Cholo hoped its rim might stick up above the waves.

Queen Kava flexed her claws in surprise. "We are recovering from the worst natural disaster in our history, Cholo. I need every able body here, and every ship for making supply runs to the mainland." She fell silent, then: "But if this is what you want ..."

"It is."

Kava let air out in a protracted hiss. "It's not really a suitable reward. Yes, you may have the use of a ship; I won't deny you that. But while on your voyage, think of what you really want -- something lasting, something of value."

"Thank you, Your Highness," said Cholo. "Thank you."

Kava disengaged her tail from the wooden mount, stepped away from her chest cradle, and walked over to the astronomer, placing the back of a hand, her claws bent up and away, gently on his shoulder. "Travel safely, Cholo."

They sailed for almost two months without finding any sign of the impact site. Cholo had tried to determine the correct heading based on the apparent direction from which the huge waves had come, plus his knowledge of the asteroid's path through the sky, but either he had miscalculated, or the ocean



really had covered over all evidence of the impact. Still, they had come this far; he figured they might as well push on to the western continent.

The ship deployed its anchor about thirty-six bodylengths from the shore, and Cholo and two others rowed in aboard a small boat. The beach was covered with debris obviously washed in by giant waves -- mountains of seaweed, millions of shells, coral, driftwood, several dead sea serpents, and more. Cholo had a hard time walking over all the material; he almost lost his balance several times.

The scouting party continued on, past the beach. The forest was charred and blackened -- a huge fire had raged through here recently, leaving burnt-out trunks and a thick layer of ash underfoot. The asteroid would have heated up enormously coming through the atmosphere; even if it did hit the ocean, the air temperature might well have risen enough to set vegetation ablaze. Still, there were already signs of recovery: in a few places, new shoots were poking up through the ash.

Cholo and his team hiked for thousands of bodylengths. The crew had been looking forward to being on solid ground again, but there was no joy in their footsteps, no jaunty bouncing of tails; this burned-out landscape was oppressive.

Finally, they came to a river; its waters had apparently held back the expanding fire. On the opposite side, Cholo could see trees and fields of flowers. He looked at Garsk, the captain of the sailing ship. Garsk bobbed from her hips in agreement. The river was wide, but not raging. Cholo, Garsk, and three others entered its waters, their tails undulating from side to side, their legs and arms paddling until they reached the opposite shore.

As Cholo clambered up the river's far bank and out onto dry land, he startled a small animal that had been lurking in the underbrush.

It was a tiny mammal, a disgusting ball of fur.

Cholo had grown sick of sea serpent and fish on the long voyage; he was hoping to find something worth killing, something worth eating.

After about a twelfth of a day spent exploring, Cholo came across a giant shieldhorn skull protruding from the ground. At first he thought it was a victim of the recent catastrophe, but closer examination revealed the skull was ancient -- hundreds, if not thousands, of years old. Shizoo legend said that long ago great herds of shieldhorns had roamed this continent, their footfalls like thunder, their facial spears glaring in the sunlight, but no one in living memory had seen such a herd; the numbers had long been diminishing.

Cholo and Garsk continued to search.

They saw small mammals.

They saw birds.

But nowhere did they see any greater beasts. At least, none that were still alive.

At one point, Cholo discovered the body of a meatscooper. From its warty snout to the tip of its tail, it measured more than four times as long as Cholo himself. When he approached the body, birds lifted into the air from it, and clouds of insects briefly dispersed. The stench of rotting meat was overpowering; the giant had been dead for a month or more. And yet there were hundreds of stoneweights worth of flesh still on the bones. If there had been any mid-sized scavengers left alive in the area, they would have long since picked the skeleton clean.

"So much death," said Garsk, her voice full of sadness.

Cholo bobbed in agreement, contemplating his own mortality.

Months later, Cholo at last returned to Queen Kava's chambers.

"And you found no great beasts at all?" said the Queen.

"None."

"But there are lots of them left on the mainland," said Kava. "While you were away, countless trips were made there to find wood and supplies to repair our cities."

"'Lots' is a relative term, Your Highness. If the legends are to be believed -- not to mention the fossil record -- great beasts of all types were much more plentiful long ago. Their numbers have been thinning for some time. Perhaps, on the eastern continent, the aftermath of the asteroid was the gizzard stone that burst the thunderbeast's belly, finishing them off."

"Even the great may fall," said the Queen.

Cholo was quiet for a time, his own nictitating membranes dancing up and down. Finally, he spoke: "Queen Kava, before I left, you promised me another reward -- whatever I wanted -- for saving the Shizoo people."

"I did, yes."

"Well, I've decided what I'd like ..."

The unveiling took place at noon six months later, in the large

square outside the palace. The artist was Jozaza -- the same Jozaza who had assured her own immortality through her stunning frieze on the palace wall depicting the Eggmother's six hunts.

Only a small crowd gathered for the ceremony, but that didn't bother Cholo. This wasn't for today -- it was for the ages. It was for immortality.

Queen Kava herself made a short speech -- there were many reasons why Kava was popular, and her brevity was certainly one of them. Then Jozaza came forward. As she turned around to face the audience, her tail swept through a wide arc. She made a much longer speech; Cholo was growing restless, hopping from foot to foot.

Finally the moment came. Jozaza bobbed her torso at four of her assistants. They each took hold of part of the giant leather sheet, and, on the count of three, they pulled it aside, revealing the statue.

It was made of white marble veined with gold that glistened in the sunlight. The statue was almost five times life size, rivaling the biggest meatscooper's length. The resemblance to Cholo was uncanny -- it was him down to the very life; no one could mistake it for anyone else. Still, to assure that the statue fulfilled its purpose for generations to come, Cholo's name was carved into its base, along with a description of what he'd done for the Shizoo people.

Cholo stared up at the giant sculpture; the white stone was almost painfully bright in the glare of the sun.

A statue in his honor -- a statue bigger than any other anywhere in the world. His nictitating membranes danced up and down.

He would be remembered. Not just now, not just tomorrow. He would be remembered for all time. A million years from now -- nay, a hundred million

hence, the Shizoo people would still know his name, still recall his deeds.

He would be remembered forever.

THE END