

THE WANKEL T. REX MAKES “THE SHOW”

How Montana’s most famous prehistoric predator ended up starring in a premier Smithsonian Institution exhibit

By Steve Hendrix

A long time ago, in a part of this state that is now arid desert but was then humid swampland, an egg hatched. It was the beginning of an epoch-spanning life story that continues still, beginning a new chapter this past summer in the nation’s capital.

The egg is long gone. The skin and muscle of the animal that climbed out of it—38 feet long and six tons once it grew—are history (or prehistory). But when it died on the banks of a creek after 18 good years at the top of the food chain, its bones settled into the enveloping mud. The current teased away the flesh, pushed its skull a few feet downstream, shifted a shoulder blade.

But more sediment filtered down, locking the skeleton in a geologic hug that would go unbroken—through 66 million winters, the collision of continents, the rise of mammals—until just before 9 a.m. on Labor Day in 1988, when Kathy Wankel caught a glimpse of that shoulder blade. ▶▶



KILL OR CARRION? In the new Smithsonian Institution exhibit, Wankel T. rex is posed feeding on a Triceratops. Museum officials wanted the scene to be ambiguous so that visitors weren’t sure if it depicted predation or scavenging. Like today’s bald eagles and grizzly bears, T. rex did both.

PHOTO BY RICHARD BARNES

“It was right over there, just a bit of it sticking from the earth that caught my eye,” Wankel said 31 years later on her first return to the site that changed her family story and recently became part of her country’s story, too. The “Wankel T. rex,” one of the largest and most complete skeletons of the meat-eating dinosaur ever found, debuted June 8 as the star attraction of the newly refurbished, \$110 million fossil hall at the Smithsonian National Museum of Natural History.

For all its ferocious reptile rep, scientists still debate whether the living Tyran-

Previously titled “The Nation’s T. rex: How a Montana family’s hike led to an incredible discovery,” this article was originally published in the Washington Post on June 1. ©2019. Reprinted with permission.

nosaurus rex was a dominant predator or just a toothy scavenger, feasting hyena-like on the carrion of the late Cretaceous. But today, their fossilized remains reign unchallenged in paleo-pop culture, the iconic king of all the dinos portrayed in movies, played with in kids’ bedrooms and displayed in museums. The Smithsonian—which had a replica T. rex towering over visitors in its old dinosaur exhibit—has been desperate for a real one for decades. The museum is thrilled to get the prime specimen Kathy Wankel spotted that September morning.

“It’s the centerpiece,” said Kirk Johnson, director of the museum and a noted paleontologist (who thinks T. rex was a predator). “It’s the anchor of the whole exhibit, and it’s going to bring a lot of joy and excitement.”

This bony being is an ambassador from

an Earth without humans. But it is also an individual with a personal history: a tale—and a tail—that has touched ranchers, researchers, and dinosaur lovers for years.

The history of the skeleton known to Montanans as the “Wankel T. rex,” to the Smithsonian as the “Nation’s T. rex,” and to scientists as “MOR555,” has three parts. The first we know little about—researchers can’t even tell whether that hatchling was a girl or a boy. The second part was 24 billion days of stony silence. But the third . . . that’s where it got interesting.

KATHY LIKES TO ROCK HOUND

Kathy Hove was born in Mississippi near the border with Louisiana, where, coincidentally, the wide, warm, and wet forests are a pretty good facsimile of what eastern Montana looked like before the Rocky

Mountains rose up to block all that moisture flowing from the west. But she grew up in Montana, where she married lanky Tom Wankel, her high school sweetie. They started a spread in the treeless badlands where ranchers scratch a living and paleontologists scrape for fossils.

They’d been at it a dozen years when they took the three kids camping up at Fort Peck Reservoir, a dammed section of the Missouri River close to the Saskatchewan border.

“I like to fish; Kathy likes to rock hound,” said Tom, 69, on a recent spring morning in the living room of the ranch house where they still live, surrounded by 250 head of Black Angus and about 40 cats. It’s 18 miles to the nearest paved road.

Geologists know the area as the Hell Creek Formation, a vast swath of land eroded just enough to uncover the layers of time and earth where dinosaurs once walked. Kathy knew to look for bones and stones alike.

It was a time of drought; Yellowstone National Park 400 miles to the south was on fire and the reservoir level was down dramatically, allowing her to scour widely along the shore. That’s where she was when a small protrusion from the slope—like the corner of an envelope—stopped her roving eye. She bent closer.

“The light was just perfect,” said Kathy, who was 35 that morning and is 66 now. “I could even see the webby pattern of the bone marrow.”

She called Tom, who scrambled up the slope. They pondered a lot and poked a bit, but the hard-baked clay was too much for his pocketknife, and the kids had school, so the waiting bones would wait some more.

It was about a month before they could return. They came in the fall, found the spot, and chipped a set of long bones from the rock. For the first time since its final breath, the T. rex—or part of it—was on the move, bouncing down a ranch road in an orange cooler that does beer duty for the Wankels to this day.

Kathy washed the fossilized bones in the sink on the back porch, laid them on the basement ping-pong table amid her collected agates and quartz, and wondered: Who do you call when you find a dinosaur?



NAMESAKE Above: Kathy Wankel, 66, was 35 when she discovered what was later officially designated Wankel T. rex, reflecting the common practice of naming scientific finds for the individuals who found them. Below: Jack Horner, former curator of paleontology at the Museum of the Rockies, provides scale for T. rex fossils at the excavation site on Fort Peck Reservoir in 1990.



YOU'D BETTER COME INSIDE

The Museum of the Rockies started out as a Quonset hut packed with Old West memorabilia on the campus of Montana State University in Bozeman. But it was already gaining status as a hotbed of paleontology by the late 1980s, when a phone call from a rancher out in Hell Creek territory led to its biggest boost yet.

It was Thanksgiving break when the

Wankels loaded the bones on a cardboard meat tray and drove them 350 miles west to Bozeman. In an autumn snow, they backed their station wagon up to the museum loading dock. Pat Leiggi, then the chief fossil preparator, walked out without much expectation.

“We get a lot of calls from people saying they’d ‘found something,’” Leiggi said, remembering the moment at the same loading dock three decades later. “We end up



DISCOVERY SITE Recently Kathy and Tom Wankel returned to the site where they discovered a T. rex skeleton on a small island in Fort Peck Reservoir in 1988. Accompanying them is Pat Leiggi, Museum of the Rockies director of paleontology, who led the excavation in 1990.

JONATHAN NEWTON/THE WASHINGTON POST

TOP TO BOTTOM: JONATHAN NEWTON/THE WASHINGTON POST; MUSEUM OF THE ROCKIES AT MONTANA STATE UNIVERSITY



BRONZE BRAWN Using a mold created directly from the Wankel T. rex bones, this bronze reproduction outside the Museum of the Rockies was created in 2001. Weighing five tons, it was the first life-size bronze T. rex ever made, and today is one of the museum's star attractions.

looking at a lot of rocks.”

He went out, peered into the back window for a long moment, then looked up at the Wankels. “You’d better come inside.”

Jack Horner, the museum’s founding curator of paleontology (and reportedly the model for the dinosaur expert in *Jurassic Park*), had never seen the lower arm bone of T. rex before. None had ever been found. When Leiggi and the Wankels filed into his lab with their cardboard trays, that changed.

“It was obvious what it was,” he recalled in an interview.

“They were all in there with their Marlboros just a-puffin’,” Kathy said. “They’d puff and look down and puff and look down. And then Jack said, ‘Could you show us where you found these?’”

BEAUTIFULLY ARTICULATED

The T. rex was buried in layers of earth and bureaucracy alike. It was nestled on the shore of a federal reservoir at the edge of a national wildlife refuge, and figuring out who controlled the land, getting permissions, and Montana’s short summer field season meant it was more than a year before Leiggi and his crew set up camp and started to jackhammer in earnest.

“Right over there is where we had the kitchen,” Leiggi said on a recent May morning, pointing to a spot at the base of a slope. He had joined the Wankel family on their first trip back to the spot since that month of excavation.

It was a big dig. The Army Corps of Engineers bulldozed a road, and the science series *Nova* set up a time-lapse camera to track

progress. Only about eight T. rex skeletons had been uncovered at that time, Horner recalled. They knew they had a big one.

Leiggi and colleagues had partly uncovered the animal’s spine in a test dig the season before, protecting the find under a “winter jacket” of plaster and hiding it under sagebrush. Now, with brute force and fine finger-work in turn, they removed more than 60 tons of caprock until the outlines of the beast revealed itself, still in its agonal pose, its neck thrown back in the rigor of death.

Once they had measured and photographed every bone in its prehistoric posture, they encased whole sections in plaster and lifted them, surrounding rock and all, with Army Corps bulldozers. The pelvic bloc alone weighed more than 7,000 pounds. They would expose them completely over

the next several years at a specially constructed display lab at the museum.

“It was beautifully articulated,” said Leiggi, who is now the museum’s director of paleontology, looking down on the shallow dent still visible decades later. He kicked at a chip of Reagan-era plaster. “I should have done a better job cleaning up this site.”

Wankel’s T. rex, estimated to contain

almost 90 percent of the living animal’s bones, quickly became a favorite with visitors and researchers alike.

“I’ve had a lot of T. rexes in my life, but MOR555 was special,” said Mary Schweitzer, a paleontologist at North Carolina State University. Her work on the specimen as a graduate assistant led to her groundbreaking—and controversial—claims

of finding molecular-level residue of blood cells and soft tissue in dinosaur fossils.

The Wankels enjoyed that the “Wankel T. rex” was so renowned. Replicas were made for museums in Scotland, Australia, and California. Kathy went on “To Tell the Truth,” where David Niven and football star Lynn Swann grilled her about fossil finding. When the Museum of the Rockies put up a massive



EXTRA SPECIAL DELIVERY Top left: Jack Horner holds an arm of the Wankel T. rex as his team packs the bones for shipment to Washington, D.C. in 2014. Top right: Officials with the U.S. Army Corps of Engineers, official owner of the fossil, and the Smithsonian Institution celebrate the arrival of the Wankel T. rex from Bozeman. Above right: The Wankel skeleton is the museum’s first T. rex and forms the centerpiece of a new 31,000-square-foot dinosaur and fossil hall that opened on June 8, 2019. Above left: Kirk Johnson, director of the Smithsonian National Museum of Natural History, and Lieutenant General Thomas Bostick, chief of engineers and commander of the U.S. Army Corps of Engineers, stand with Kathy and Tom Wankel at a press conference in 2017.

KELLY GORMAN/MONTANA STATE UNIVERSITY

TOP LEFT: MIKE GREENE/BOZEMAN DAILY CHRONICLE; ALL OTHER PHOTOS: FT. EYRE/US ARMY



DEATH POSE At the Museum of the Rockies, the Wankel T. rex was displayed exactly as paleontologists saw it when they first uncovered the bones.

bronze cast of the skeleton out front, they went for another round of congratulations.

And then, in 2014, word reached the ranch: Their T. rex was heading to the nation's capital. The Smithsonian had arranged a 50-year loan with the Army Corps, the legal owners of the skeleton.

DEATH POSE DRAMA

It was a bittersweet departure for many when they packed 16 crates of T. rex into a customized FedEx truck and pointed it east. A lot of Montanans like Montana fossils to stay in Montana. Johnson, at the Smithsonian, hopes they will take solace that it is likely to become the most viewed T. rex in history.

The 7 million people who visit the museum each year "are going to see it and know it's from Montana," he said.

It's taken a long time to make the shift. The Smithsonian spent five years completely renovating the fossil hall, revamping its collection and restoring the Beaux-Arts architecture. The T. rex, in the meantime, was going to stand up for the first time.

In Bozeman, the fossil had been displayed in an array of pieces, showing visitors what Leiggi and Horner saw when they first uncovered the bones.

"A death pose gives the visitors a chance to see what it looks like in the ground," Horner said.

The Smithsonian has opted for an action pose, sending the fossil to a firm in Ontario for mounting in a dramatic tableau of life and death on the subtropical basin that was Montana back, back, back in the day. Now, the fossilized T. rex is frozen in the act of chomping the head of a fossilized Triceratops. Whether it is the chomp of a predator or a scavenger is left for the visitor to imagine.

"People can think he killed it, but maybe he just found it," said Johnson, as his staff was putting the final touches on the new exhibit. "It's best to be clear about where your knowledge ends and speculation begins."

The Wankels and their three all-grown-up kids are coming to see their find take its place as Washington's newest bigfoot VIP. They will get a private tour of the exhibit and take in a Nationals baseball game. Tom will put on a black string tie for the opening gala crowded with people, some of whom have donated a lot of money to get their name on a plaque somewhere in the Smithsonian.

Kathy Wankel has her name on one by a different route. She came arm-in-arm with a dinosaur. 🦖



LEFT TO RIGHT: MUSEUM OF THE ROCKIES; AT MONTANA STATE UNIVERSITY; ILLUSTRATION BY HERSCHEL HOFFMEYER

FLESHED OUT RENDITION An artistic imagining of a female Tyrannosaurus rex and her young roaming what is today Montana, 66 million years ago.