

For Sale: A Chunk Of Mars

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Mark Mauthner/Heritage Auctions

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Few things are as rare as a piece of rock that falls from outer space and crashes onto Earth.

Among the most prized of these meteorites are from Mars. Friday, scientists describe the latest one discovered: It's called Tissint, and this weekend you can buy a piece of it.

First, it's clear to experts that Tissint is extraordinary as well as extraterrestrial. It contains a unique story about Mars. Says meteoriticist [Caroline Smith](#) of the London Museum of Natural History: "Many people think that this meteorite may well be one of the most important meteorites that have actually fallen in the last century."

She's one of those people.

The museum owns the biggest piece of Tissint, and Smith is one of the scientists who [described](#) it in the journal *Science* on Friday.

Tissint's journey began as basaltic volcanic rock on the Martian surface. Smith says scientists can tell liquid washed over the rock and weathered it. It deposited elements from Martian soil inside cracks in

the rock. Then an object — probably an asteroid — smacked into Mars and blasted the rock into space. In July 2011, it flamed through the Earth's atmosphere and smashed into the Moroccan desert.

Smith notes that while NASA's robot [Curiosity](#) is driving around [Mars](#) now, meteorite experts have the real thing.

"The thing is, no matter how fantastic the robotic missions are, it's still not the same as being able to actually analyze a piece of rock in a laboratory on Earth," she says. "So I think the big message here is that the meteorite is almost ground-truthing what we're actually seeing on Mars."

There are a few other Martian meteorites. But Tissint is special for several reasons. The impact that blew it off Mars melted part of its surface into smooth, black glass. That trapped bubbles of Martian atmosphere and elements inside, including cerium, an element scientists thought might be on Mars but weren't sure of. Also, its fragments were found quickly, so it hasn't been too contaminated by elements on Earth. It's also one of only five Martian meteorites that was observed hitting the Earth.

Scientists have just begun to tease out its story.

"Whenever I pick up a meteorite," says Smith, "I get excited. Each of those stones is a little time capsule and a little space probe to actually help us understand how our solar system formed."

But the piece in London is just one of many that broke off Tissint as it hurtled through Earth's atmosphere. Where they ended up is a story that begins in Morocco.

Meteorite scientist Hasnaa Chennaoui Aoudjehane at [Hassan II Casablanca University](#) had heard news of the fireball that lit up the sky in the summer of 2011. Last January she traveled 700 miles from Casablanca, over the Sahara, to find the "strewn field" — where pieces spread across the sand. She was not the first one there. "The first thing that I see is hundreds of people in the middle of nowhere. And this is something that I will never forget."

Men, women and children were camped out, hunting for the pieces. Meteorites are often found in North Africa — unusual rocks stand out in the desert — and they bring a good price.

People brought pieces to her to identify. "On the first view of the first sample, it's clear that it's a Martian meteorite," she says. Professional dealers scooped up most of the pieces. Aoudjehane bought some small pieces for her university in Casablanca, where laboratory tests confirmed what she'd recognized on sight — Martian rock. She's a co-author on the paper in *Science*.

About the time Aoudjehane was collecting pieces, a meteorite collector and dealer in New York City named [Darryl Pitt](#) got a tip about fragments of Mars for sale. Pitt, who is curator of the Macovich Collection of meteorites, got money from a group of investors. A Moroccan dealer sold him a piece, dispatching his au pair to fly with it to New York City. "Immediately after she clears customs, she reaches into her purse and gives me a packet and I'm looking around and looking at the cameras and thinking, 'Oh my golly, this is going to be a problem.' " Not that it was illegal; the transaction just made it look suspicious.

Pitt bought or brokered the sale of more pieces, including the one that went to the London's Natural History Museum. "It's important to make the material available to scientists and researchers first and foremost," he says. Collectors like Pitt have the time and means to cultivate contacts in places like

Morocco, where the trade has flourished, especially among the Berber nomads. "Several of these fellows that I know have become rich. A couple own hotels now. They're no longer trekking the desert. ... it's been really fantastic."

The museum's Caroline Smith agrees that collectors and scientists do help each other — the collectors to find meteorites, the scientists to analyze them. "I would be not telling the truth if I said there was no tension with anything where large amounts of money is involved," she says. "But I would like to stress that, you know, on the whole relationships are very good, it's a mutually beneficial arrangement in many cases." The trade does push up prices, sometimes beyond what scientists can afford. But Smith says sometimes collectors sell them to museums at a discount.

On Sunday, a piece of Tissint will be offered at a [meteorite auction](#) in Manhattan. It's billed as the biggest ever, and Pitt helped Heritage Auctions arrange it. There are pieces from the moon and from the asteroid belt. But Pitt says the Martian meteorites are the stars because they are so rare. All told on Earth, he says, "You're talking like about 300 pounds of material. That's it. Mars is among the rarest substances on Earth."

The Tissint fragment at the auction starts at \$230,000. As for potential buyers, Pitt says they're "most anyone who has an appreciation for the exotic, the romantic. Anyone who wants to enthrall a child or anyone's sense of wonder. Radio hosts? Everyone." Pitt notes that the piece at the auction actually fits exactly into the piece at the London museum. He's hoping whoever buys it will reunite the two.

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Dillard Jenkins · a day ago

I'm in the market for a piece of the planet Kolab, which according to Joseph Smith is a planet or star that is closest to the throne of God. I haven't seen a listing for that anywhere, but I'll continue to look. It has be out there somewhere because old Joseph wouldn't be just fooling everybody would he?

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Paul Chrisney · 13 hours ago

These tiny fragments are very valuable, this is Marsonite and having some would keep you safe from Martians.

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