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Meteor fan's hobby is otherworldly

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MENDOTA — Joe Kerchner of Mendota isn't your ordinary rock hound. He searches the riverbanks and cornfields of the Illinois Valley looking for rocks that are out of this world.

"I've been interested in it since I was a kid," Kerchner said.

Kerchner is an amateur meteorite hunter. He started about a year ago when he found a rock he thought might be a meteorite.

It turned out the rock originated from Earth, but he had caught the hunting bug. Kerchner began researching the topic, so next time he would have a better understanding of what he found.

Most meteorites start out as part of an asteroid that is hurtling through space, according to Kerchner. The rocks break off from the main asteroid usually through collision with another space object and become meteoroids.

The Earth's gravitation pulls the rocks into the atmosphere where they are classified as meteors. They burn in the atmosphere, causing the bright streaks of light most commonly referred to as shooting stars or fireballs.

Many burn up in the atmosphere and never make it to Earth, but some fall to the ground and become meteorites, according to Kerchner.

When a meteor hunter comes upon a meteorite that recently has fallen to Earth and has been seen by people hurtling through the sky it is called a fall, which is rare. A meteorite that has fallen to Earth sometime in the past is called a find, and those are the most common, according to Kerchner.

"It is rare to find one someone has seen," Kerchner said.

Washington University lunar geochemist Randy Korotev has more than 900 requests from people to analyze their rocks to see if they are meteorites and the majority have been "meteorwrongs."

"You've got a better chance of winning the lottery than finding a meteor," Korotev said. "The number of requests I get is incredibly huge.

According to Korotev, only nine meteorites have ever been confirmed in Illinois. A meteor may break up in the atmosphere and send several smaller rocks to the ground. Even though there are several rocks, they are classified as a single meteorite.

For example, in May 2003, dozens of rocks fell from a meteor into the town of Park Forest, causing damage to houses, but that was classified as the Park Forest meteorite.

Meteorites are classified into three distinct groups — stony, iron-and-nickel and stony-iron. Stony meteorites are primarily made of rock. Iron-and-nickel are made mostly of iron with some nickel, and stony-iron are made up of equal parts stone and iron, according to Kerchner.

There is no way to definitively tell that a rock found in a cornfield or rock pile is definitely a meteorite at the scene, but some characteristics lend themselves to meteorites.

Many meteorites have a fusion crust that is created when they enter the atmosphere, according to Kerchner. The high speed mixed with atmospheric friction causes the surface temperature of the meteor to increase dramatically. The minerals on the surface begin to melt and flow backwards.

As the meteor slows and cools, the minerals harden forming a skin that envelops the entire meteorite.

“Sometimes it turns glassy or sometimes it turns black or brown,” Kerchner said.

Also, the high metal content in many cause them to be magnetic, according to Kerchner. But some Earth rocks can be magnetic as well and some meteorites are not magnetic.

Kerchner has found several rocks he believes may be meteorites and has sent them to laboratories. He says Illinois is not the easiest place to find meteorites.

Korotev said the best places to find meteors are deserts and Antarctica because items are constantly being uncovered instead of buried, making meteorites easier to find.

In Illinois, farmers till the fields and water erodes shores so that any surface rocks are buried. In deserts, the sand uncovers buried rocks. In Antarctica, the rocks are buried in the ice and snow. As the glaciers move, they make contact with underground impediments and large sections of ice are pushed upward uncovering the buried meteorites, according to Korotev.

Korotev said thousands of meteorites have been found in Antarctica.

The process to have a meteorite verified could take up to a year because of the sheer number of requests laboratories have to fulfill. Once it has been concluded to be a meteorite scientifically, it must be officially declared a meteorite, according to Korotev.

Kerchner said he hopes to one day make money from the endeavor by selling parts of meteorites, which can be lucrative. The most common meteorites, called chondrites, are relatively inexpensive, but asteroid-based meteorites can sell for hundreds of dollars per gram.

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