

When is Almost Nothing Something?

By Clark M. Thomas,

Astronomy is really an adventure for the mind's eye, not the physical eye. Sometimes less is more. Have you ever been in awe of a tiny speck of light in your eyepiece that you knew was, say, Pluto, or a distant quasar, or maybe a moon of Neptune? Have you ever imagined what it would be like to walk on Mars, and pick up a rock for yourself? Well, you CAN walk on Mars in a very small way:

For billions of years rocky fragments of the Solar System have been bumping into each other. The Earth's Moon is the product of a Mars-sized impact over four billion years ago. The asteroid belt is composed of fragments that never coalesced into a planet, due to Jupiter's gravitational effects. Being fragmented and scattered has not stopped asteroids large and small from smacking into each other, and also into Mars.

A rare Martian impact will eject enough crustal material that some escapes the gravity of our red planet neighbor. A very small portion of that rocky ejecta joins the much greater quantity of asteroid debris intercepting Earth's orbit.

Eventually, some of that swarm finds its way to Earth. We call them meteors, and pick them up as meteorites.

Out of billions and billions of rocks lying on the surface of our planet, only about 22,000 have been scientifically identified as extra-terrestrial. Nearly all meteorites are rocky or metallic asteroid fragments. Only 33 meteorites have been identified as Martian. A tiny fragment from one of those Martian stones is in my possession. It is about as insignificant as a 15th magnitude star in my scope, but it is as exciting to my mind's eye as that elusive quasar.



The "parent" meteorite was found in the winter of 1996/1997 in the Libyan desert. It is known as the Dar al Gani 735 meteorite. It weighed 588 grams. It is Mar-

tian basalt, shergottite. Classification and mineralogy was done in Germany. My sesame-seed-sized portion is 0.008 grams. There remains one large chunk, which is pictured on this page. That piece weighs 113 grams. Since I paid \$20 for my tiny piece, imagine what 113 grams would be worth. No matter what, it's a lot less expensive to own a piece of Mars this way, than what it would cost to send humans to Mars to pick up a similar rock.