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THE MACOVICH COLLECTION

The largest and most celebrated collection of aesthetic iron meteorites in the world

IMPORTANT NOTICE 2/22/10

Lovina's Stature As A Unique Meteorite Reaffirmed

Lovina was certified a meteorite by the Meteoritical Society's Nomenclature Committee in 2008, and a scientific abstract on Lovina appeared later that year in *Lunar and Planetary Science (XXXIX)*. In December 2009, two researchers wondered if Lovina might be an exotic form of oxidized slag (a byproduct of smelting) and further research into its origins commenced. The world's foremost expert in iron meteorites, John Wasson,

announced his findings in February 2010: "I am convinced Lovina is probably a meteorite, every single element is within the range commonly encountered in iron meteorites. Metals that have been made by man will differ from meteorites in terms of several elements and element ratios." Endorsed by the scientists who prompted the new investigation, Wasson's determination reaffirmed Lovina's standing as a singularly unique iron meteorite.

LOVINA

Bali, Indonesia | Found 1981 | Iron (ataxite, ungrouped) | 4780 grams

"The most bizarre, unreal meteorite I've ever seen in 30 years"

—Marlin Cilz, Montana Meteorite Laboratory



While searching for shells at Lovina Beach in Bali, Indonesia in 1981, a 13-year-old boy recovered an unusual metallic rock from the shallows. He knew nothing about meteorites—had no idea what they looked like—but this did not prevent him from earnestly reporting to his family that he found a rock from outer space. Extremely exotic, the rock looked nothing like any meteorite documented. With two dozen one-inch metallic pyramids on a coral-like base, magical thinking was stretched to the breaking point as this would have to be the most unusually shaped meteorite known to exist.

As the years went by, the boy was entirely content to hold onto his find. He moved to Canada with his family, kept his rock in a tackle box and went to work in a nickel mine. In 2008 he ran into a paleontologist who introduced him to scientists at Western Ontario University (the same researchers who pinpointed the location of the September 25th, 2009 Grimsby fireball). When the rock's extraterrestrial origin was confirmed, the owner was nonplussed and later conveyed, "Over all these years, I've never had as much faith in anything as this being a meteorite."

An ataxite, Lovina is one of only a handful of underwater finds—and one of several examples where there was not an additional meteorite from the same event first recovered from the shoreline. The extraordinary ziggurat (pyramidal) structures are believed to be rich in tetrataenite. With its 34.5% nickel content, Lovina has the 4th largest nickel concentration of any meteorite; as a result, it was selectively resistant to the oxidizing effect of the tropical waters where after having been immersed for centuries. Out of the water, Lovina is stable and extremely resistant to rusting; cut faces have evidenced no rusting for years. The internal structure of Lovina is only somewhat less anomalous than its matchless pyramids. An abundance of globular troilite nodules organized in a novel latticework come along with similarly organized vugs—a consequence of troilite oxidation.

"Lovina is unbelievable. You can take whatever you thought you knew about meteorites — and it just doesn't matter anymore."

—Robert Haag, Robert Haag Meteorites



Dan Richer, finder

Lunar and Planetary Science XXXIX (2008)






In determining Lovina's station among meteorites, perhaps the best analog is the renowned Tucson Ring, as both are heavily weathered iron meteorites (and nickel-rich ataxites) which feature extraordinary morphologies. While the backstory to the Tucson Ring is rich in Americana, the following provides a useful comparison.

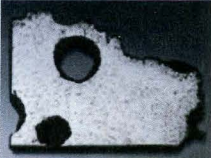

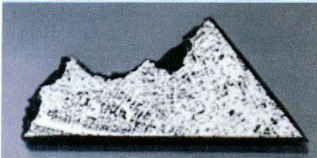




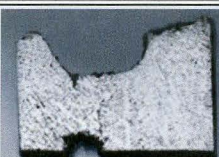



	TUCSON RING	LOVINA
Total Known Weight	975 kg	4.7 kg
Found	Tucson, AZ	Bali, Indonesia
Meteorite Type	Ataxite (nickel-rich)	Ataxite (nickel-rich)
Percentage of Nickel	9.53%	34.5%
Ranking in nickel-percentage of all meteorites	145	4
Outstanding Feature (external)	Hole (through one of the specimens)	Pyramidal / Ziggurat structures atop the sole specimen
Feature Created By	Extended weathering in Arizona desert	Extended immersion in Balinese tropical waters
Has this feature been witnessed in other meteorites	Yes, in many hundreds of specimens, but this is the most spectacular example	Never before seen
Meteorite finds recovered in a similar environment (desert vs. water)	>15,000	1
Outstanding Internal Feature	None (contains silicates and pinheads of sulfides)	Lattice-like matrix of vugs and troilite
Number of Masses	2	1
Do circulated specimens originate from the mass possessing the outstanding feature?	Almost never. The actual Tucson Ring specimen hasn't been cut in decades, and the vast majority of specimens are from the 287 kg Carleton mass	Yes
Amount of material available to the public	The 287 kg Carleton mass could be entirely distributed without compromise to the renowned Ring specimen	Only 2.1 kg will be available for institutions and the collecting community. A 2.3 kg slab containing the pyramidal structures will be kept intact for museum exhibition

SPECIMENS FOR SALE

COMPLETE SLICES			
SPECIMEN	SPECIFICATIONS	SPECIMEN	SPECIFICATIONS
	17.43 grams 46 x 44 x 2mm [\$300/g] SOLD		18.38 grams 53 x 37 x 2.5mm [\$250/g] \$4,575

	19.65 grams 54 x 39 x 2mm [\$250/g] \$4,900		31.18 grams 63 x 58 x 2.5mm [\$300/g] SOLD
	31.53 grams Heritage Auction June 2010 SOLD		31.63 grams 63 x 59 x 2.5mm [\$300/g] SOLD
	41.68 grams 54 x 66 x 2.5mm [\$300/g] \$12,500		48.44 grams 69 x 56 x 4mm [\$300/g] \$14,525
	187.36 grams 78 x 61 x 27mm (end piece) [\$175/g] \$32,775		

PARTIAL SLICES			
SPECIMEN	SPECIFICATIONS	SPECIMEN	SPECIFICATIONS
	21.87 grams 58 x 48 x 2mm [\$350/g] \$7,650		13.97 grams 39 x 22 x 2mm [\$300/g] \$4,175
	19.26 grams 52 x 36 x 2mm [\$300/g] \$5,750		17.68 grams 38 x 41 x 2mm [\$350/g] \$6,150
	12.98 grams 37 x 37 x 2mm [\$300/g] SOLD		10.93 grams 52 x 22 x 2mm [\$300/g] SOLD
	6.56 grams 34 x 15 x 2mm [\$300/g] \$1,950		4.82 grams 20 x 16 x 2mm [\$275/g] \$1,325

	8.59 grams 35 x 24 x 2mm [\$300/g] \$3,000		4.63 grams 36 x 15 x 2mm [\$400/g] \$1,850
	2.15 grams 27 x 12 x 2mm [\$300/g] SOLD		1.72 grams 16 x 8 x 2mm [\$300/g] SOLD
	2.65 grams 15 x 10 x 2mm [\$250/g] \$650		3.35 grams 23 x 14 x 2mm [\$275/g] \$900
	2.09 grams 23 x 7 x 2mm [\$275/g] SOLD		4.489 grams 22 x 16 x 2mm [\$300/g] SOLD
	4.24 grams 21 x 24 x 2mm [\$300/g] \$1,250		3.79 grams 15 x 19 x 2mm [\$275/g] SOLD
	4.24 grams 21 x 24 x 2mm [\$300/g] \$1,250		

METEORITES FOR SALE

For more information please contact:
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