

METEORITE FALLS IN MOROCCO DURING THE LAST DECADE: AN OVERVIEW.

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Introduction: Morocco is the most important country in the world as far as the meteorite collection is concerned. The official number of meteorites coming from Morocco exceeds 1000, this number is a gross underestimate as a significant number of meteorites collected in Morocco are not precisely documented on their find places, have no coordinates and were classified in the NWA (Northwest Africa) category which means that they were purchased from Moroccan dealers; in addition many others are simply not submitted to the Nomenclature Committee (NomCom) of the Meteoritical Society (MetSoc) because of their minor commercial value. All these unreported finds contribute to blurring the statistics of Moroccan meteorites. The situation is not the same for falls that are precisely documented in Morocco since 2000.

Meteorite falls in Morocco: The number of falls in Morocco including the Moroccan Western Sahara is of 11 [1] for a surface area of 712,550 km². The first one, Douar Mghila (LL6) was observed in 1932, and no other fall was reported during 54 years. Oued El Hadjar (LL6) fell in 1986, followed by Itqiy (EH7-anomalous) in 1990 and Zag (H3-6) in 1998. Since 2002, 7 new falls has been submitted to the NomCom: Bensour (LL6, 2002), Oum Dreyga (H3-5, 2003), Benguerir (LL6, 2004), Tamdakht (H5, 2008), Tissint (Martian shergottite, 2011), Tihert (Eucrite unbrecciated, 2014) and Tinajdad (H5, 2014).

At least 4 other meteor detections with meteorite recoveries are not yet official: in Nzala area (H5, 2009), in Izarzar area (H5, 2012) and close to Al Mahbes (LL6, 2013) and one fall that is reported as from Breja area (LL6, 2010) but only approximate provenance of this fall has been established by our team until now.

Many other meteors were also reported during the last decade in Moroccan sky but without any meteorite finds.

We performed the statistics of falls in Morocco with some other countries such as Algeria, France, USA and Mauritania by collecting falls 50 years by 50 years in order to compare the rates of falls recorded with time.

Results: Statistics show that in Morocco, 73% of falls have been reported since 2000, compared to other countries such as Algeria 57% between 1850 and 1900, France 58% before 1850, and USA with 40% between 1900 and 1950. Mauritania has the same trend as Morocco with 67% since 2000. The number of falls in Morocco during this period is higher than any other places in the world.

Discussion: Statistics shows that the number of falls increased drastically from 2000 in Morocco and Mauritania. This suggests an increased interest for meteorites in Morocco since 2000. Many hunters are now specialized in collecting meteorites with an awesome skill for identifying them on the field. The combination of this interest from hunters and our scientific work allowed increasing significantly the number of official falls in Morocco, including very valuable ones such as Tissint and Tihert.

References: [1] <http://www.lpi.usra.edu/meteor>