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MOROCCO AND MAURITANIA METEORITES: A LARGE CONTRIBUTION TO METEORITICS AND PLANETARY SCIENCES

HASNAA CHENNAOUI AOUDJEHANE
GAIA Laboratory, Faculty of Sciences, Hassan II University of Casablanca MOROCCO
chennaoui.hasnaa@gmail.com, hassna.chennaoui@univh2c.ma

During the last seventy years, studying meteorites through their geochemistry has been a fantastic way to increase our knowledge about the origin of the solar system, the formation of planets including Earth, and large impact-related mass extinctions during the geological times. Their analysis has allowed scientists to have direct access to rocks from planets not yet directly explored. Most of them are very primitive rocks representing the precursor of actual planets.

The collection of meteorites is essentially done in hot and cold deserts. All countries located in North West Africa (NWA) contain large desert areas called Sahara. These are very good places for meteorite hunting. NWA is very rich in meteorite finds; a large part of them come from Morocco and Mauritania. All classes of meteorites are found in these countries. Many are rare and very important for scientific research in particular due to their parent bodies. Most Martian and lunar meteorites as well as angrites and other rare types are from Morocco and Mauritania.

Morocco has experienced many meteorite falls since 2004 (“Benguerir”, “Tamdakht”, “Tirhert”, “Tinajdad”, “Sidi Ali Ou Azza”, “Izarzar”, "Kheneg Lajouad", "Gueltat Zemmour"). All of them have been classified and submitted to the Nomenclature Committee of the Meteoritical Society by our team, including the exceptional fifth Martian meteorite fall in Morocco, “Tissint”. Many valuable papers have been published on these falls allowing Moroccan researchers to enhance their position on this topic. A similar effort was made for meteorite finds in Morocco such as “Al Haggounia”, “Anoual”, “Bou Azarif” and “Agoudal”

Mauritania offers a large number of meteorite finds and some falls. Most of them have a NWA nomenclature; they deserve to have a Mauritanian locality name. The lack of locality name means that we don’t know the exact origin of the sample, thus we lose important scientific and patrimony information.

Our objective is to present how a meteorite is classified using geochemical analysis. We will then explain how it became official following a submission to the Nomenclature committee of meteorites of the Meteoritical Society.

The Moroccan experience of the development of Meteoritics and Planetary sciences may be of benefit to Mauritanian researchers who are interested in the promotion of these topics in their home country.