

ON METEORITES FROM MOROCCO AND THE NWA METEORITE NOMENCLATURE. H. Chennaoui Aoudjehane^{1,2}, A. Jambon² and N. Larouci^{1,2}. ¹Hassan II University Casablanca, Faculty of Sciences Ain Chock, GAIA Laboratory, BP 5366 Maârif 20000 Casablanca, Morocco. E-mail: chennaoui_h@yahoo.fr. ²ISTEP Université Pierre et Marie Curie Paris6, Case 110, 4 Place Jussieu, Paris Cedex 5, France.

Introduction: The North West Africa (NWA acronym) nomenclature was proposed by the Nomenclature Committee of the Meteoritical Society in 2000, when many meteorites began coming from Morocco without knowing the exact origin(s) of these rocks [1]. These meteorites are essentially collected by nomads crossing the desert in the Sahara region that lacks real frontiers. The nomads are fantastic observers and they have a very good knowledge of terrestrial rocks from the desert; this enables them to distinguish country rocks from extraterrestrial ones. Their interest in these rocks is motivated by the fact that they are valuable - they can sell them. Meteorites have become an important source of revenue in this relatively poor area.

The problem: Since the first NWA001 was published in 2000, about 7900 meteorites have been submitted to the Nomenclature Committee, many of which are rare and valuable. Even considering the importance of these meteorites and the fact that we know that they come from Morocco, they many have not been eligible to the prestige of having a proper Moroccan name, as the exact coordinates of finds are not exactly known. Even though the coordinates are known by hunters and dealers, there is a rule that applies only to this part of the world, i.e., « Morocco and surrounding countries » that requires proof of the find with a photo of the meteorite in the field with the GPS showing the coordinates. This treatment is discriminatory and deprives Morocco of his meteorites. The contribution of these meteorites to scientific research is very important; many interesting papers have been published on NWA meteorites.

Our work: In 2001 we began working on meteorites from Morocco and trying to understand exactly how their collection is made and where the meteorites are from. Although some meteorites are from Algeria, Mauritania and other surrounding countries but then sold in Morocco, most NWA meteorites have clearly been collected in Morocco, especially in the Moroccan Sahara. As hunters are nomads without GPS, they do not record the geographic coordinates of finds. We could proof clearly that many NWA have de facto been originally found in Morocco (Al Haggounia, BouAzarif, NWA 6963 synonym of Fej Arrih). For Al Haggounia and Bouazarif, we have made a new submission to the NomCom, despite the fact that we know that they are the same samples as previously classified as NWA.

For meteorites with a very small amount of material collected, we tried to complete the existing submissions, e.g. NWA 6963 martian meteorite should have the name « Fej Arrih » according to the name of the place of find. Yet, it was not granted to give a proper name to this meteorite - the name remains a synonym of the NWA number. This is the same case as with other exceptional meteorites, such as NWA 7034 [2] and NWA 7325 [3], for which coordinates of the find are now known by all dealers and hunters.

Conclusion: We recommend a discussion on the NWA nomenclature, based on the work performed by researchers to document meteorites from Morocco that should have the same treatment as meteorites from the rest of the world.

References:

[1] J. N. Grossman 2000. MB84. *Meteoritics & Planetary Science* 35:A199-A225. [2] Agee et al., 2013, *Science*, 339 (6121): 780-785. [3] Irving et al., 2013, 44th 27th Lunar & Planetary Science Conference Abstract #2164.