

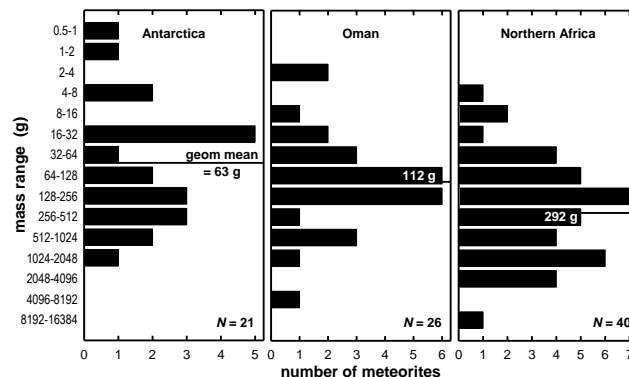
LUNAR METEORITES FROM NORTHERN AFRICA

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As of June, 2014, the Meteoritical Bulletin Database lists 78 lunar meteorite stones from northern Africa (69 NWA, 6 DaG, 2 NEA, and Anoual), beginning with DaG 262 found in 1997. We have also confirmed another 24 yet-unnamed lunar meteorite stones from northwest Africa and have accumulated bulk compositional data by INAA for 97 stones.

Among named stones, the total mass is 39.3 kg, midway between the sample masses collected on the Apollo 12 and 14 missions (34.4 and 42.3 kg). Stone masses range from 0.8 g to 11.5 kg, with a median mass of 166.5 g, about the same as the geometric mean mass, 147 g.

On the basis of bulk composition and petrography, but not reported find of location or point of sale, the named stones represent a minimum of about 40 meteorites. This compares with 26 for Oman and 21 for Antarctica. Lunar meteorites (all stones of assumed pairs) from northern Africa are larger, on average, than those from Oman and Antarctica (Fig. and [1]).



Lunar meteorites from northern Africa are diverse in composition, ranging from 2.7 % (NWA 2998) to 22.3 % FeO (NWA 032/479) and 0.10 ppm (NWA 3163) to 7.5 ppm Th (NWA 4472). A number are unique and largely unlike rocks in the Apollo collection, e.g., the NWA 773 clan [2,3], basalt NWA 4898 [4], ferroan granulite NWA 3163 and pairs [5–7], magnesian granulite NWA 5744 [8], metal-rich NWA 5000 [9], moderately mafic, but basalt-poor NWA 2995 and pairs [10,11], basaltic breccia NWA 3136 [10,12], and KREEPy, basaltic breccia NWA 6687 [13], for which we obtain 16.3 % FeO and 6.2 ppm Th.

There is no indication that lunar meteorite finds from northern Africa are diminishing with time.

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