



The Meteoritical Bulletin, No. 107

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(Received 25 November 2019; revision accepted 12 December 2019)

Abstract—Meteoritical Bulletin 107 contains 2714 meteorites including 16 falls (Aba Panu, Ablakotka, Andila, Gueltat Zemmour, Hamburg, Karimati, Mahbas Arraid, Mangui, Mazichuan, Mukundpura, Ozerki, Parauapebas, Renchen, San Pedro de Urabá, Sokoto, Tintigny), with 2226 ordinary chondrites, 168 HED achondrites, 132 carbonaceous chondrites (including 41 CM, 34 CV, 26 CO, 21 CK, 4 CR, 5 ungrouped), 43 ureilites, 30 iron meteorites (including 2 ungrouped), 29 lunar meteorites, 22 Martian meteorites, 16 primitive achondrites (including 3 brachinites), 12 Rumuruti chondrites, 9 enstatite chondrites, 7 ungrouped achondrites, 6 pallasites, 5 mesosiderites, 3 enstatite achondrites, 3 ungrouped chondrites, and 2 angrites. 1569 meteorites are from Antarctica, 835 from Africa, 206 from South America, 62 from Asia, 21 from North America, 11 from unknown locations, 8 from Europe (including one from Russia), and 1 from Oceania.

TRENDS AND SPECIFICITIES

Meteoritical Bulletin 107 (MB107) contains the 2714 meteorites reported to and accepted by the Nomenclature Committee of the Meteoritical Society in 2018. This number is the second highest ever after a peak in MB102 with 3141 meteorites. The number of NWA meteorites reaches a new peak with 799 meteorites (Fig. 1). Antarctic and NWA meteorites make up 58% and 29% of the total number of meteorites in MB107, respectively. As for the last few years, Chile, with 200 meteorites, is now the main meteorite provider outside of NWA and Antarctica.

The 2714 meteorites in MB107 total over 2.3 t of material, including 6 meteorites over 50 kg. Of particular significance for 2017 is the large number of lunar meteorites: 29 meteorites totaling over 68 kg, with 10 stones over 1 kg and 2 stones over 10 kg (Fig. 2). All these lunar meteorites are from NW Africa (Algeria, Mali, Mauritania, Morocco, Western Sahara) and coordinates are known for two of them (Aridal 017 and Errachidia). Many of these stones are likely paired.

A similar surge in Martian meteorites is observed with 22 meteorites totaling over 15 kg, including 3 meteorites over 2 kg (Fig. 2). Again, most of these

meteorites are from NW Africa (19 of 22). Seventeen are shergottites, one is a nakhlite, and the remaining four (totaling 30 g and including Rabt Sbayta 010 for which coordinates are available) are polymict breccias paired with NWA 7034.

The total numbers of lunar and Martian meteorites published until and including MB107 are 383 and 239, respectively, and growing at an increasing rate (Fig. 3).

NOTABLE METEORITES

Four non-ordinary chondrite falls are reported: Mazichuan (diogenite), Mukundpura (CM2), Sokoto (iron, IIIAB), and Tintigny (polymict eucrite). Another notable fall is Aba Panu, a 160 kg L3 from Nigeria. Other notable meteorites include NWA 12322 (35 kg CV3), NWA 11610 (28 kg CO3), NWA 12320 (4 kg angrite).

NOVELTIES IN THE METEORITE BULLETIN DATABASE

Strewn field data can now be plotted into Google Earth from the Meteorite Database. Example for Sutter's Mill meteorite is shown in Fig. 4. Data are available in

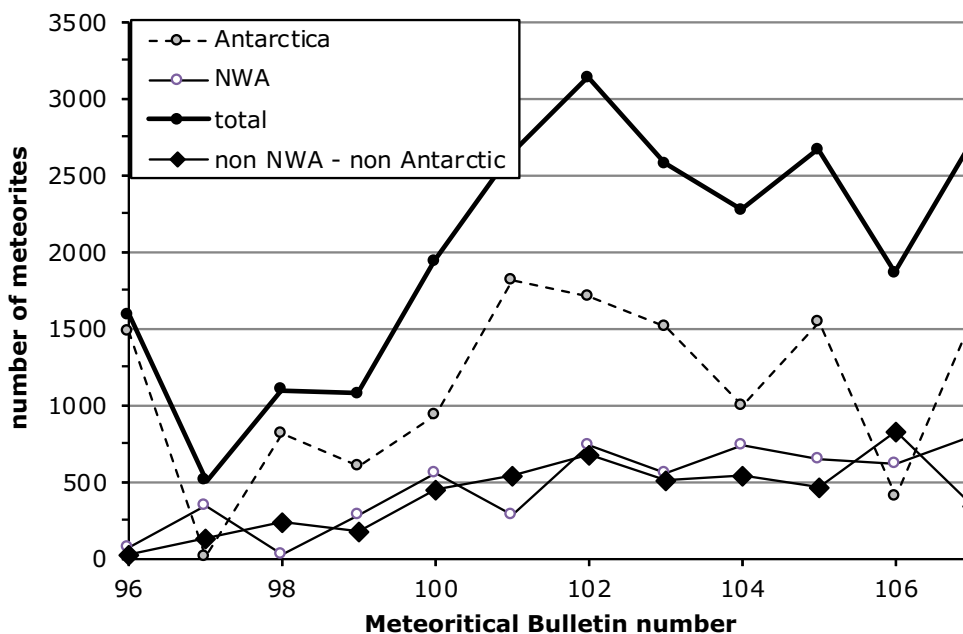


Fig. 1. Number of meteorites from Antarctica, NWA, and other areas reported in the last 12 Meteoritical Bulletins.

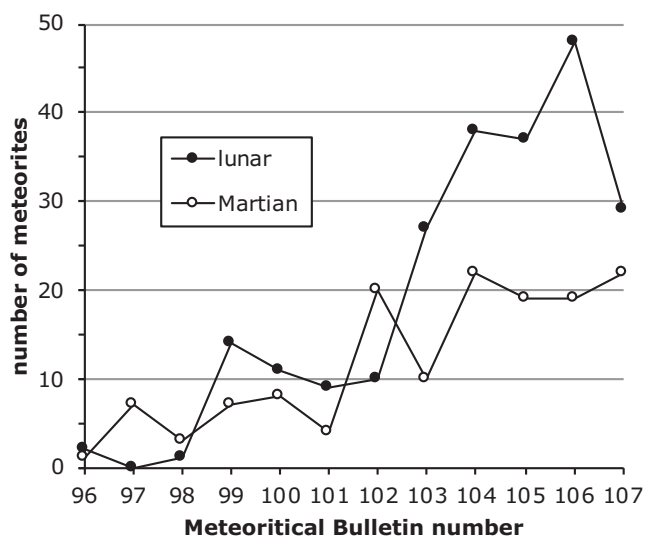


Fig. 2. Number of lunar and Martian meteorites reported in the last 12 Meteoritical Bulletins.

the Meteorite Bulletin Database by following the strewn field link. We encourage submission of location coordinates for past and future strewn fields.

ALPHABETICAL TEXT ENTRIES FOR NON-ANTARCTIC METEORITES

See online version of this article.

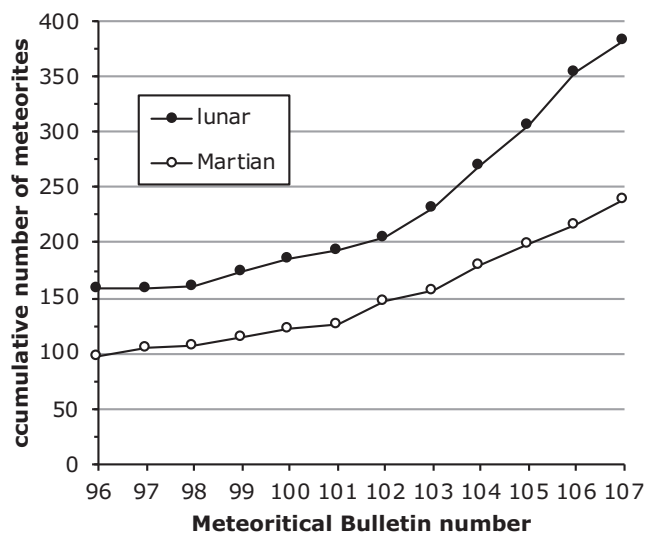


Fig. 3. Cumulative number of lunar and Martian meteorites with time.

NEW DENSE COLLECTION AREAS

In 2018, 24 new dense collection areas (DCA) were created, including 13 in China. See online version of this article for a list of DCA approved in 2018. A full list of all approved DCAs can be found at <https://www.lpi.usra.edu/meteor/DenseAreas.php>.

LISTING OF INSTITUTES AND COLLECTIONS

Eight new type specimen repositories were approved (see online version of this article for a complete list).

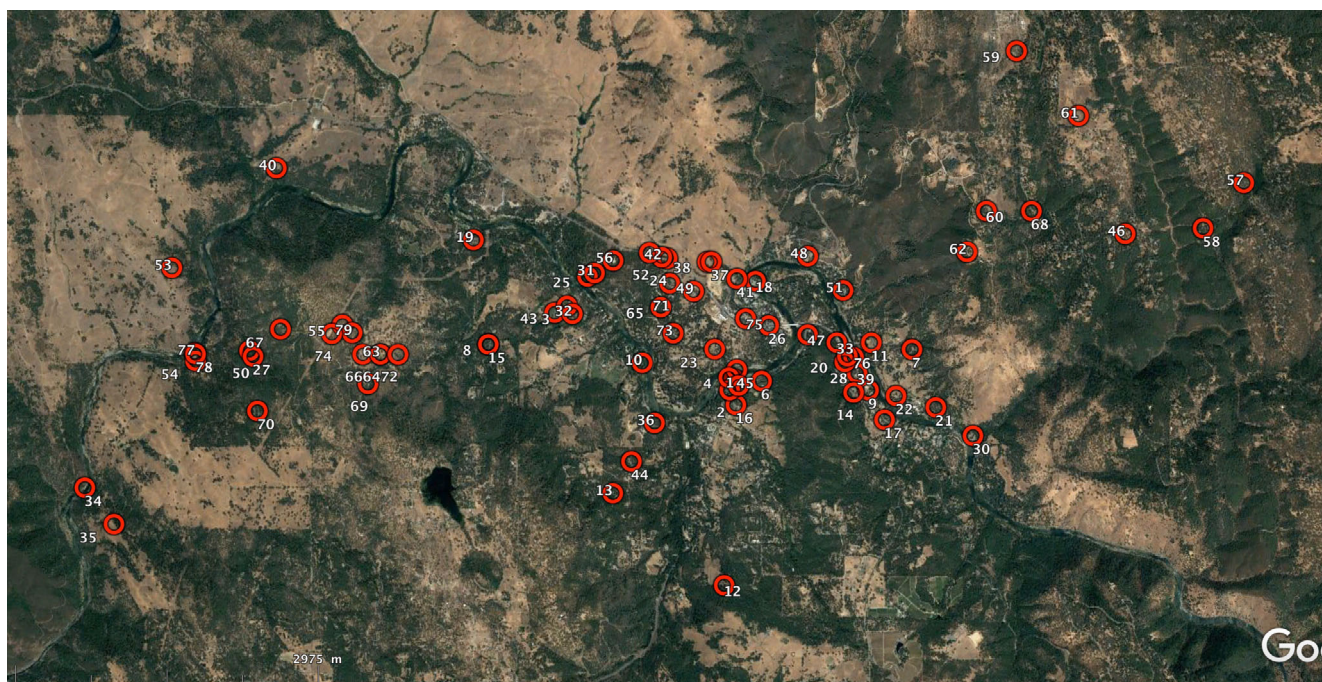


Fig. 4. Sutter's Mill strewn field as extracted from the Meteoritical Bulletin Database. Each stone is numbered with full details (mass and coordinates) available in the database. (Color figure can be viewed at wileyonlinelibrary.com.)

In accordance with §7.1 of the *Guidelines for Meteorite Nomenclature*, type specimens of all new meteorites “must be deposited in institutions that have well-curated meteorite collections and long-standing commitments to such curation.” The minimum mass of a type specimen should be 20% of the total mass or 20 g, whichever is the lesser amount. For larger meteorites, the Nomenclature Committee now strongly recommends the following: for 0.4–10 kg at least 5% of total mass, and for meteorites >10 kg at least 500 g. However, these larger type specimens requirements are mandatory for meteorites declared to be in Special Pairing Groups (§4.2c).

SUPPORTING INFORMATION

Additional supporting information may be found in the online version of this article.

Online Supplement S1: Table of data including Antarctic meteorites.

Online Supplement S2: Table of corrections.

RECLASSIFICATIONS

Sixteen meteorites have been reclassified in MB107. Eleven of these are Martian meteorites, likely paired with NWA 7034, that are now classified as “Martian (polymict breccia).” See online version of this article for a complete list of reclassifications.

REFERENCES

See online version of this article.

Data S1: A complete copy of entire Meteoritical Society Bulletin can be found in the supplementary information of this article as well as on the Meteoritical Bulletin Archive page at http://meteoriticalsociety.org/?page_id=57. Information about the approved meteorites can be obtained from the Meteoritical Bulletin Database (MBD) available online at <https://www.lpi.usra.edu/meteor/>.