DESCRIPTION OF A NEW STONY METEORITE FIND FROM BULLOCH COUNTY, GEORGIA (USA).

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Introduction: A very weathered 2.2 kilogram stony meteorite was found in June 2000 in Bulloch County, Georgia (USA). A butterbean farmer, Mr. Harold Cannon, found the meteorite while harvesting his crop. The unusual stone was picked up by a bean collecting machine and then set aside until December 2003 when it was finally identified as a new meteorite find. Based on the appearance of a several millimeter thick orange weathering rind (Figure 1), the stone is not a recent fall and must have been lying in the field for many years. Efforts are ongoing to locate companion meteorites within the find area. The name "Statesboro," taken from the nearest town, has been proposed for this new meteorite.

Figure 1: An image of the new Bulloch County, Georgia meteorite find. The specimen weighs 2.2 kilograms and the gold dollar coin is used for scale. Note the bright orange weathering rind.

Analytical Procedures: A Zeiss 962 electron microscope at the Fernbank Museum of Natural History, utilizing energy dispersive spectroscopy (EDS), was used to acquire major element data on a 2.1 gram polished 1.5 cm^2 section of the meteorite. The analyses were made using a beam current of 20 kV and corrected using the ZAF method. Mineral standards were used to insure accuracy better than two percent. Each of ten olivine and pyroxene mineral grains was analyzed at five separate points, with averaged results to be reported later.

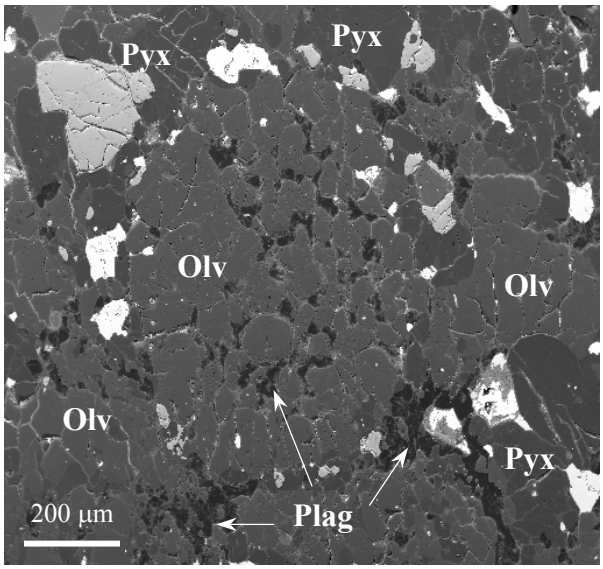

Figure 2: An olivine (Olv) chondrule rimmed by nickel-iron and troilite grains. Small inclusions of plagioclase (Plag) occur within while larger pyroxene (Pyx) grains are found outside this chondrule.

Mineralogy / Petrography: The meteorite is an ordinary chondrite consisting primarily of the minerals olivine, pyroxene, and plagioclase -- with inclusions of nickel-iron and troilite. Figure 2 shows a representative example of an olivine chondrule and typical mineral distribution. Average chondrule diameter is less than one mm, with many having a nickel-iron "armoring." Veins of nickel-iron permeate the stone as well. Based on the morphology and preservation state of the chondrules, a petrologic class of 5 is suggested.

Discussion and Conclusions: To date, 23 meteorites have been found in the state of Georgia (Figure 3). The Statesboro meteorite is the eighth stony meteorite found in the state and, of these, four are falls and four are finds. All Georgia iron meteorites, with the exception of the Pitts meteorite, are finds. We estimate that the Statesboro meteorite, due to its thick weathering skin, has been on the surface for many tens of years. It is an excellent example of the decomposition of a stony meteorite in a wet-humid environment. Classification is pending, based on the results of ongoing major element geochemistry work.

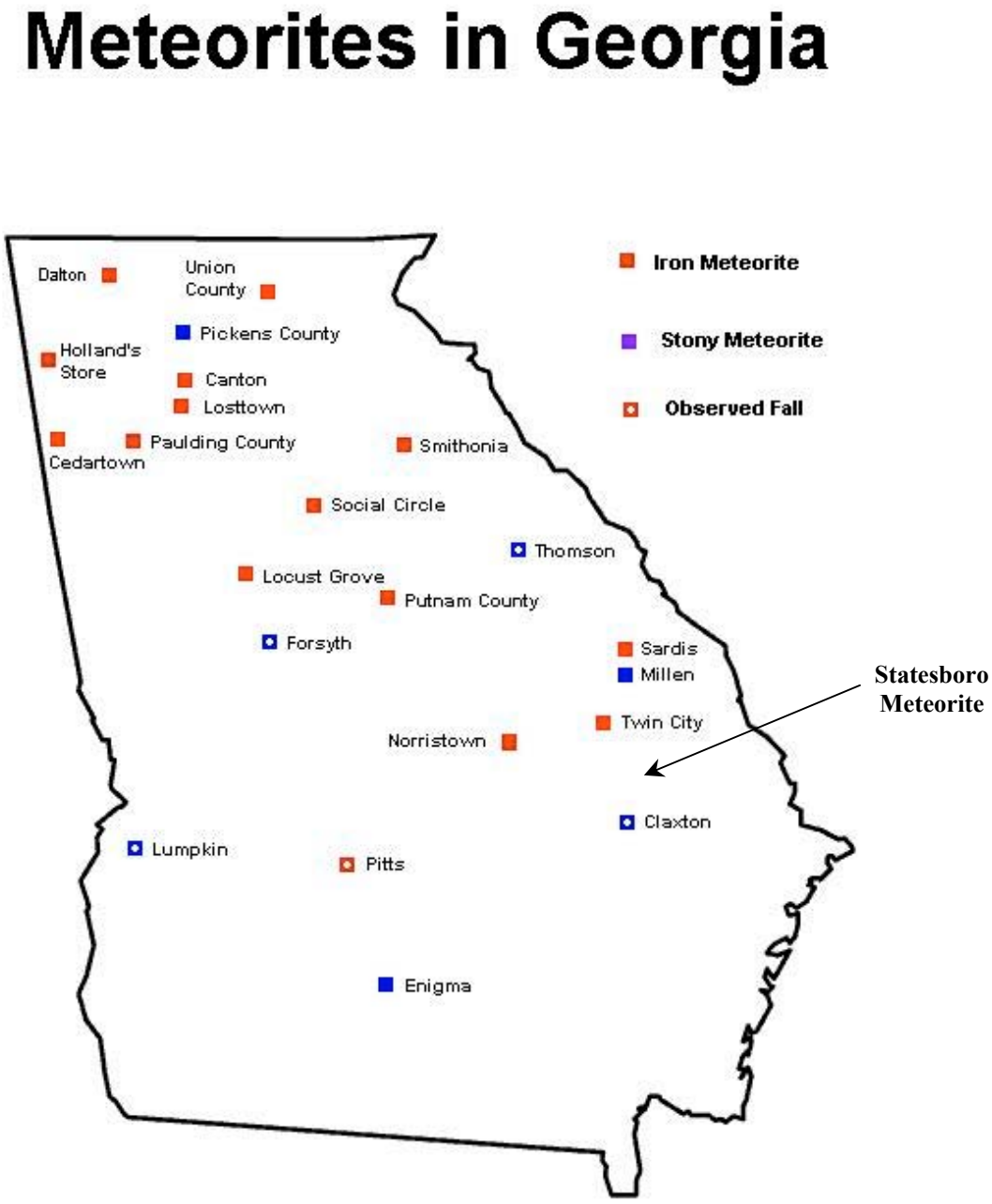

Figure 3: A map showing the Statesboro find in the context of other Georgia meteorites. The meteorite is found too far from Claxton to be part of that fall. Its matrix is also very dark compared to that of the Claxton meteorite.