

Results of an Intensive Brazilian Divulcation Program Involving Amateur Astronomers and Students.

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Although meteorites fall randomly on the Earth, Brazil has a very few number of meteorites comparing with its continental size, holding only 55 meteorites at 2009 when our divulgation program received the first financial support of FAPERJ (Fundação de Amparo a Pesquisa do Rio de Janeiro), Petrobras and collaboration of OBA (Brazilian Olympiads of Astronomy). This small Brazilian meteorites sampling is mainly due to the lack of information of the population and consequently little interest of them on reporting events unable to contribute in meteorite recovery. Now 6 years after the launch of the divulgation program “Is there an ET in your backyard?” [1], there are 77 approved meteorites, 2 submitted, 3 new ones to be submitted and three not approved. Performing 27 meteorites, but a significant increase in 50% in only 6 years.

Among the new Brazilian meteorites, there were three new recovered falls (Varre-sai, in 2010; Vicência, in 2013; and Porangaba, in 2015) and the knowledge of a meteorite that fell in 1967 and was kept as a souvenir with the journalist Saulo Gomes [2] who published about the strange object associated with UFO and terrorism.

In Brazil, there are few small groups that divulgate meteorites to the public as example “Geologando” project, coordinated by Dr. Deborah Rios and Wilton de Carvalho from Bahia, the Museu Nacional of Rio de Janeiro, some amateur astronomers that founded the BRAMON (Brazilian Meteor Observation Network) and several other amateur through forums and groups on the Internet.

The BRAMON has one year since their foundation, has 25 stations in 10 states, more than 25000 captured meteors and 3756 orbits by triangulation. This research project is integrated by only amateur researchers of 10 states. Daylight fireballs cannot be detected by their cameras because they stay offline during daytime. A daylight fireball observed from São Paulo at 11h32m31s ($\pm 2s$) UTC on January 9, 2015, but, unhappily, it was not captured. While a group of BRAMON was trying to determine the fall point by a security camera movie and two pictures of the dust trail, I receive by e-mail a picture of the meteorite that fell at the same time with no doubts that it was the meteorite.

Finding meteorites is not easy, the iron meteorites are more easily distinguished, if someone happens to find one. Even meteorites that are observed to fall are often hard to locate on the ground. As most of Brazilian territory is vegetation covered and due to the tropical climate, if not recovered soon after the fall, the chondrites resemble Earth rocks and become unnoticed. In our program with students, we make many activities showing them how to identify meteorites.

These results could be better if we have funds to acquire the recovered meteorites to the science and promote field recovery search of new falls. Due to the supposed value of the meteorites, they are kept with the finders that think they will become richer with the find or sell to collectors. It is hard to get the 20g necessary for type specimen in deposit for the meteorite approbation for the NomCom even with collaborators, as happen with Porangaba whose BRAMON member, who acquired the meteorite, gave only 22g to Museu Nacional for research and deposit.

References: [1] 73rd Annual Meteoritical Society Meeting (2010), [2] Zanardo, A. et al. The chondritic meteorite Saulo Gomes. *Geociênc. (São Paulo)* vol.30 no.2 São Paulo 2011