

Belgian-Japanese search for Antarctic meteorites during the 2010–2011 field season. S. Goderis¹, H. Kaiden^{2,3}, V. Debaille⁴, H. Kojima^{2,3} and Ph. Claeys¹, ¹Vrije Universiteit Brussel, Pleinlaan 2, B-1050 Brussels, Belgium, ²National Institute of Polar Research, Tachikawa, Tokyo 190-8518, Japan, ³The Graduate University for Advanced Studies, Tachikawa, Tokyo 190-8518, Japan, ⁴Université Libre de Bruxelles, 50, Av. F.D. Roosevelt, CP 160/02, B-1050 Brussels, Belgium.

Introduction:

Since 2009–2010, Belgium and Japan have jointly conducted searches for meteorites in areas around the Sør Rondane Mountains (SRM), near the Belgian station Princess Elisabeth (PE), in East Antarctica (Fig. 1) [1]. During the 2009–2010 field season, a total of 635 meteorite specimens were found in the Mt. Balchen area (72.0°S, 27.5°E), located at the eastern end of the SRM [2]. This abstract reports the search for meteorites hosted by the Belgian Antarctic Research Expedition (BELARE) during the 2010–2011 field season to the Nansen Icefield located south of the SRM.

Meteorite search on the Nansen Icefield:

The 29th Japanese Antarctic Research Expedition (JARE) conducted systematic searches for meteorites on the Nansen Icefield and found ~1400 meteorite specimens during the 1988–1989 field season [3]. These meteorites were termed Asuka-88 and include rare types such as the Asuka-881371 angritic achondrite and the Asuka-881757 gabbroic mare basalt. Since 1989, no search for meteorites on the Nansen Icefield has taken place.

A meteorite search team (consisting of three Belgians and two Japanese) carried out systematic meteorite searches in the Nansen Icefield from January 1st to 23rd, 2011. This team, known as SAMBA (Search for Antarctic Meteorites: Belgian Contribution; [4]), also marked a route between PE station (72.0°S, 23.3°E) and the Nansen Icefield (72.7°S, 24.2°E) on 30 December 2011 (Fig. 1, 2). This route opens the way to further exploration of the Nansen Icefield from PE.

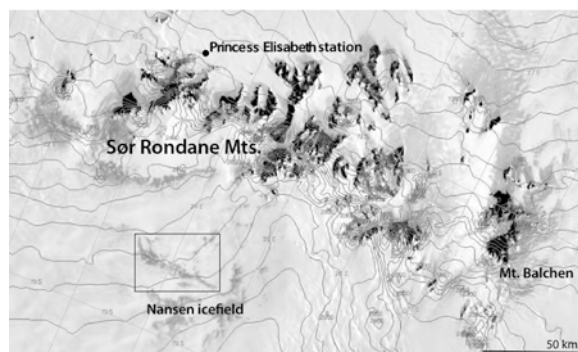


Fig. 1. Location of the areas of interest around the Sør Rondane Mts. The zone surrounded by a rectangle is enlarged in Fig. 2.

In total, 218 meteorites and meteorite fragments were collected during this mission. Most of the collected meteorites are ordinary chondrites, but at least two achondrites were recognized in the field (with field numbers K11010902 and G11011508).

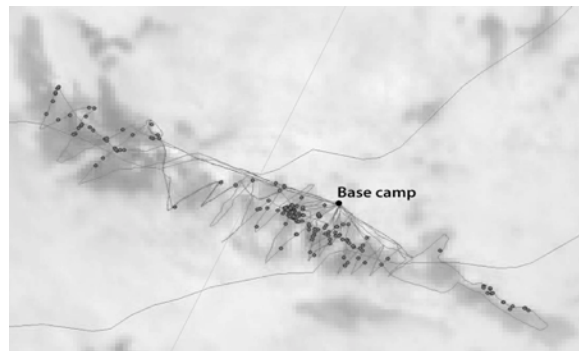


Fig. 2. Distribution of meteorites (dots) and tracks followed by skidoos (lines) in the northern part of the Nansen Icefield (approximately 40 km across).

The meteorites were individually put in clean polyethylene bags in the field and kept frozen until they were placed in a freezer at the National Institute of Polar Research (NIPR), Japan. The position of each meteorite was recorded by GPS. The initial processing (weighing, measuring, photography, naming, and brief description) and classification is being carried out at the NIPR. The meteorites collected by the joint Belgium-Japan team in the 2010–2011 field season will be termed Asuka10 meteorites. As only a third of the Nansen Icefield was surveyed during 2010–2011, JARE and BELARE are planning to cover the rest of the area in 2012–2013.

Acknowledgment:

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References:

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