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Front Cover — These clouds of intense blue dust and gas lie 1300 light-years away in Cepheus, spanning a diameter of about six light-years. The blue colour comes from the reflection of light from hot, blue stars by the dust grains in the nebula. A much larger area of surrounding dust and gas appears as an extensive brownish cast extending across much of the image. Dalton Wilson captured this impressive image of the Iris Nebula from Didsbury, Alberta, using an Astro-Tech 10" RC with an Astrophysics CCDT67 reducer and a QSI583wsg camera. Exposure was 6×900s in L and 13×300s in each of RGB.



RASC Catalogue of Meteorites—Third Supplement



by R.A. Rosenfeld, RASC Archivist
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Abstract

This third supplement to the RASC Catalogue of meteorites records the addition of specimens of twelve different meteorites, four different impactites, and one associated object.

Introduction

The RASC Archives have benefitted yet again from the generosity of the anonymous RASC member whose three earlier gifts of meteoritic materials now comprise the majority of the objects in the RASC Archives' meteoritical collection (previous material catalogued in Rosenfeld 2009; 2010; 2011). Among the newly added materials are fragments from the Abee (RASC M23) and Buzzard Coulee falls (RASC 25), and the Lone Island Lake find (RASC 24). The collection now also includes fragments of Weston (RASC M26), Almahata Sitta (RASC 27), and Chelyabinsk (RASC 28). Also newly accessioned are pieces of tempered glass shattered by the Chelyabinsk shock wave (RASC O1), pieces of Sudbury distal ejecta (RASC I9), and several moldavites (RASC I10)

Catalogue

The catalogue fields consist of:

1. inventory number;
2. type and origin;
3. provenance;
4. dimensions;
5. weight;
6. form;
7. appearance;
8. state of preservation; and
9. bibliography (previous publications of a RASC specimen precede general type citations).

Entries for 7 provide the colour in the Munsell system in the *Earthcolors* version (Anon. 1997). No conclusions should be drawn about the original size and shape of the fragments from the use of the Krumbein Phi Scale and Wentworth Classification, as most of the fragments received their current shape and size from post-impact human agency, *e.g.* some are bandsaw fines. Both systems are employed here merely to give some

indication of comparative fragment size. Given the limited extent of the collection, a little more detail can be supplied in the fields than is usually the case in such catalogues. This is not to be taken as a sign of the relative importance of the specimens in the RASC collection; rather it attests to the opposite. It should also be noted that characterizations of the material are based on descriptions of the type specimens, or other properly analyzed specimens in the literature, for samples from none of the RASC specimens have been subject to extensive laboratory analysis. This catalogue has been prepared with the needs of the amateur uppermost, rather than the professional.

Meteorites

29. 1. RASC M23.20141001; **2.** Abee, enstatite chondrite (EH4), Alberta, Canada (54°13'N, 113°W), fall 1952 June 9, 107 kg.; **3.** anonymous gift 2014 October 1; **4.** 3 fragments; range of fragment sizes ϕ scale=-2 to 2 (Wentworth size class=very fine gravel to fine sand), 0.06-0.30 cm; **5.** 0.051gr.; **7.** colour range: 2.5Y 2.5/1 Black to 2.5Y 7/1 Light Gray matrix, with sparse inclusions at 2.5Y 8/3 Pale Yellow (Munsell); **8.** good, but friable as per this type; **9.** not previously published; IMCA EoM www.encyclopedia-of-meteorites.com/meteorite.aspx?id=6; *MB* 8 (1958), 2; MBDB www.lpi.usra.edu/meteor/metbull.php?code=6; Whyte (2009), 155-189

30. 1. RASC M24.20141001; **2.** Lone Island Lake, medium octahedrite (IAB-sLL), Manitoba, Canada (50° 0' 34"N, 95° 23' 7"W), find 2005, 4.8 kg.; **3.** anonymous gift 2014 October 1; **4.** fragment, ϕ scale=-1 to -2 (Wentworth size class=very fine gravel), 0.36×0.24×0.12 cm; **5.** 0.08 gr.; **7.** colour range: 5Y 2.5/1. This specimen is iron shale; **8.** good; **9.** not previously published; IMCA EoM www.encyclopedia-of-meteorites.com/meteorite.aspx?id=55762; *MB* 101 (*forthcoming*); MBDB www.lpi.usra.edu/meteor/metbull.php?code=55762

31. 1. RASC M25.20141001; **2.** Buzzard Coulee, ordinary chondrite (H4), Saskatchewan, Canada (52° 59' 46"N, 109° 50' 53"W), fall 2008, 41 kg.; **3.** anonymous gift 2014 October 1; **4.** 4 fragments; range of fragment sizes, ϕ scale=1 to -2 (Wentworth size classes=coarse sand to very fine gravel), 0.05-0.35 cm; **5.** 0.051 gr.; **7.** colour range: N 7/ (Light Gray) matrix, with 2.5Y 8/1 White to N3/ Very Dark Gray chondrules; **8.** good; **9.** not previously published; IMCA EoM www.encyclopedia-of-meteorites.com/meteorite.aspx?id=48654; *MB* 95 (2009), 5; MBDB www.lpi.usra.edu/meteor/metbull.php?code=48654; Fry, C., *et al.* (2013)

32. 1. RASC M26.20141001; **2.** Weston, ordinary chondrite (H4), Connecticut, USA (41° 16'N, 73° 16'W), fall 1807, 150 kg.; **3.** anonymous gift 2014 October 1; **4.** fragment, ϕ scale=1 to 0 (Wentworth size class=coarse sand), 0.1×0.08×0.05 cm; **5.** 0.012 gr.; **7.** colour range: 2.5Y 8/1 White to N3/ Very Dark Gray; **8.** good; **9.** not previously published; IMCA EoM www.encyclopedia-of-meteorites.com/meteorite.aspx?id=24249;

MB 96 (2009), 1359-1369; MBDB www.lpi.usra.edu/meteor/metbull.php?code=24249; Noonan & Nelson (1976); Marvin (2011)

33. 1. RASC M27.20141001; **2.** Almahata Sitta, Ureilite-an, Nubian Desert, Sudan (20° 44' 45"N, 32° 24' 46"E), fall 2008, 3.95 kg.; **3.** anonymous gift 2014 October 1; **4.** fragment, ϕ scale=0 to -1 (Wentworth size class=very coarse sand), 0.16×0.12×0.1 cm.; **5.** 0.01 gr.; **7.** Colour range: 5YR 7/6 (Reddish Yellow) to N 2.5/ (Black); **8.** good; **9.** not previously published; IMCA EoM www.encyclopedia-of-meteorites.com/meteorite.aspx?id=48915; MB 96 (2009), 1355-1356; MBDB www.lpi.usra.edu/meteor/metbull.php?code=48915; Jenniskens *et al.* (2010)

34. 1. RASC M28.20141001; **2.** Chelyabinsk, ordinary chondrite (LL5), Chelyabinskaya oblast', Russia (54° 49'N, 61° 7'E), fall 2013, 1 t.; **3.** anonymous gift 2014 October 1; **4.** 3 fragments, ϕ scale=1 to -3 (Wentworth size class=coarse sand to fine gravel), 0.09-0.53 cm.; **5.** 0.017 gr.; **7.** colour range: N 7/ (Light Gray) matrix, with N 4/ (Dark Gray) chondrules. Fusion crust on the two largest fragments, colour N 2.5/ (Black); **8.** Excellent; **9.** not previously published; IMCA EoM www.encyclopedia-of-meteorites.com/meteorite.aspx?id=57165; MB 102 (*forthcoming*); MB 103 (*forthcoming*); MBDB www.lpi.usra.edu/meteor/metbull.php?code=57165; Galimov *et al.* (2013); Marov *et al.* (2013)

35. 1. RASC M29.20141001; **2.** Lahoma, ordinary chondrite (L5), Oklahoma, USA (36° 23'N, 98° 5'W), find 1963, 21.8 kg.; **3.** anonymous gift 2014 October 1; **4.** ca. 15 fragments, ϕ scale=1 to -2 (Wentworth size class=coarse sand to very fine gravel), 0.06-0.26 cm.; **5.** 0.028 gr.; **7.** colour range: N 2.5/ (Black) matrix; **8.** good; **9.** not previously published; IMCA EoM www.encyclopedia-of-meteorites.com/meteorite.aspx?id=12432; MB 83 (1999), A172; MBDB www.lpi.usra.edu/meteor/metbull.php?code=12432

36. 1. RASC M30.20141001; **2.** Northbranch, ordinary chondrite (H5), Kansas, USA (39° 59' 30"N, 98° 20' 30"W), find 1972, 76 kg.; **3.** anonymous gift 2014 October 1; **4.** ca. 30 fragments, ϕ scale=3 to -3 (Wentworth size class=fine sand to fine gravel), 0.019-0.54 cm.; **5.** 0.04 gr.; **7.** colour range: N 3/ (Very Dark Gray) matrix; **8.** good; **9.** not previously published; IMCA EoM www.encyclopedia-of-meteorites.com/meteorite.aspx?id=17010; MB 81 (1997), A162; MBDB www.lpi.usra.edu/meteor/metbull.php?code=17010

37. 1. RASC M31.20141001; **2.** Koltsovo, ordinary chondrite (H4), Kaluga District, Russia (54° 45' 2"N, 36° 58' 41"E), find 2004, 20.02 kg.; **3.** anonymous gift 2014 October 1; **4.** fragment, ϕ scale=-3 (Wentworth size class=fine gravel), 6.1×5.9×3.0 cm.; **5.** 0.161 gr.; **7.** colour range: N 4/ (Dark Gray) matrix, with N 5/ (Gray) to N 3/ (Very Dark Gray) chondrules; **8.** good; **9.** not previously published; IMCA EoM www.encyclopedia-of-meteorites.com/meteorite.aspx?id=30742; MB 89 (2005), A209; MBDB www.lpi.usra.edu/meteor/metbull.php?code=30742

38. 1. RASC M32.20141001; **2.** Jbilet Winselwan, carbonaceous chondrite (CM2), Western Sahara, Morocco (26° 40' 3"N, 11° 40' 38"W), find 2013, 6 kg.; **3.** anonymous gift 2014 October 1; **4.** complete granule, ϕ scale=-1 to -2 (Wentworth size class=very fine gravel), 0.38×0.28×0.24 cm.; **5.** 0.089 gr.; **7.** colour range: N 4/ (Dark Gray) to N 2.5/ (Black) exterior, N 2.5/ (Black) interior visible at broken surface; **8.** good; **9.** not previously published; IMCA EoM www.encyclopedia-of-meteorites.com/meteorite.aspx?id=57788; MB 102 (*forthcoming*); MBDB www.lpi.usra.edu/meteor/metbull.php?code=57788

39. 1. RASC M33.20141001; **2.** NWA 2999, achondrite (angrite), Morocco or Algeria, find 2004, 0.392 kg.; **3.** anonymous gift 2014 October 1; **4.** fragment, ϕ scale=-1 to -2 (Wentworth size class=very fine gravel), 0.37×0.29×0.18 cm.; **5.** 0.08 gr.; **7.** Colour range: N 2.5/ (Black); **8.** good; **9.** not previously published; IMCA EoM www.encyclopedia-of-meteorites.com/meteorite.aspx?id=33449; MB 90 (2006), 1396; MBDB www.lpi.usra.edu/meteor/metbull.php?code=33449

40. 1. RASC M34.20141001; **2.** NWA 4473, achondrite (diogenite), find 2006, 7.02 kg.; **3.** anonymous gift 2014 October 1; **4.** ca. 30 fragments, ϕ scale=4 to -2 (Wentworth size classes=very fine sand to very fine gravel), 0.01-0.36 cm.; **5.** 0.081 gr.; **7.** colour range: N 3/ (Very Dark Gray) matrix, 5R 8/1 (White), 5Y 8/3-5Y 8/4 (Pale Yellow), and 2.5YR 7/6 (Light Red)-2.5YR 5/6 (Red) clasts; **8.** good; **9.** not previously published; IMCA EoM www.encyclopedia-of-meteorites.com/meteorite.aspx?id=44946; MB 92 (2007), 1657; MBDB www.lpi.usra.edu/meteor/metbull.php?code=44946

41. 1. RASC I9. 20141001; **2.** Sudbury distal ejecta, Hillcrest Park (Thunder Bay), Ontario, Canada (48° 26' 4"N, 89° 14' 4"W); **3.** anonymous gift 2014 October 1; **4.** 2 fragments, 5.2×3.5×1.6 cm., 5.1×3.3×1 cm.; **5.** 15.1 gr., 13.8 gr.; **8.** friable; **9.** not previously published; Addison (2005); Addison (2010); Glass & Simonson (2012)

Impactites

42. 1. RASC I10. 20141001; **2.** Moldavite, Czech Republic; **3.** anonymous gift 2014 October 1; **4.** 2 fragments, 1.3×1.2×0.6 cm., 1×0.70×0.68 cm.; **5.** 0.84 gr., 0.5 gr.; **8.** good; **9.** not previously published; Trnka & Houzar (2002); Baier (2007)

43. 1. RASC I11. 20141001; **2.** Tektite, Australasian Strewn Field; **3.** anonymous gift 2014 October 1; **4.** 5.17×2.3×1.8 cm.; **6.** pear-shaped splashform; orientated; **8.** excellent state of preservation; **9.** not previously published; McCall (2001), 51-54

Other

44. 1. RASC O1. 20141001; 2. tempered-glass fragments created by meteor shock wave, Chelyabinskaya oblast', Russia (54° 49'N, 61° 7'E); 3. anonymous gift 2014 October 1; 4. 5.17×2.3×1.8 cm.; 4. 2 fragments, ϕ scale=-2 to -3 (Wentworth size class=fine gravel), 0.65×0.6×0.4 cm., 0.59×0.52×0.4 cm.; 5. 0.3 gr.; 8. good ★

Acknowledgements

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Abbreviations

IMCA EoM= International Meteorite Collectors Association. Encyclopedia of Meteorites

M&PS= *Meteoritics & Planetary Science*

MB= *Meteoritical Bulletin*

MBDB= Meteoritical Bulletin Database

NWA= Northwest Africa

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IMCA EoM=International Meteorite Collectors Association.

Encyclopedia of Meteorites. www.encyclopedia-of-meteorites.com (accessed 2014 December 31)

MBDB=Meteoritical Society. Meteorite Bulletin Database.

www.lpi.usra.edu/meteor/metbull.php (accessed 2011 February 1)

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