*Journal of Cosmology*, Vol.22, No.2 published, 15 February 2013 (also Vol. 21, 45, 9811-9815)

# ATLAS OF MICROORGANISMS IN COLOURED RAINS AND METEORITES IN SRI LANKA

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**ABSTRACT**

As a continuation of our earlier studies we present here an atlas of microscope images of organisms that we have discovered in a variety of coloured rain samples and meteorites that fell over Sri Lanka in December 2012 and January 2013.

*Keywords: Red, yellow, blue and black rain in Sri Lanka, microorganisms*

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In a series of earlier papers in this Journal (Wickramasinghe, Wallis et al, 2013a,b; Samaramayake and Wickramarathne, 2013) we showed the presence of microorganisms in red, yellow, blue and black rain, as well as in the meteorites that fell about a week preceding each rainfall event.

We present here a compendium of microscope images from the rain as well as from presumably associated meteorites. The caption below each image gives the location and date of the sample.

For our investigations the samples of rain were placed directly on sterile microscope slides. In the case of the meteorites interior samples were dispersed in drops of sterile water on microscope slides for examination in a light microscope.

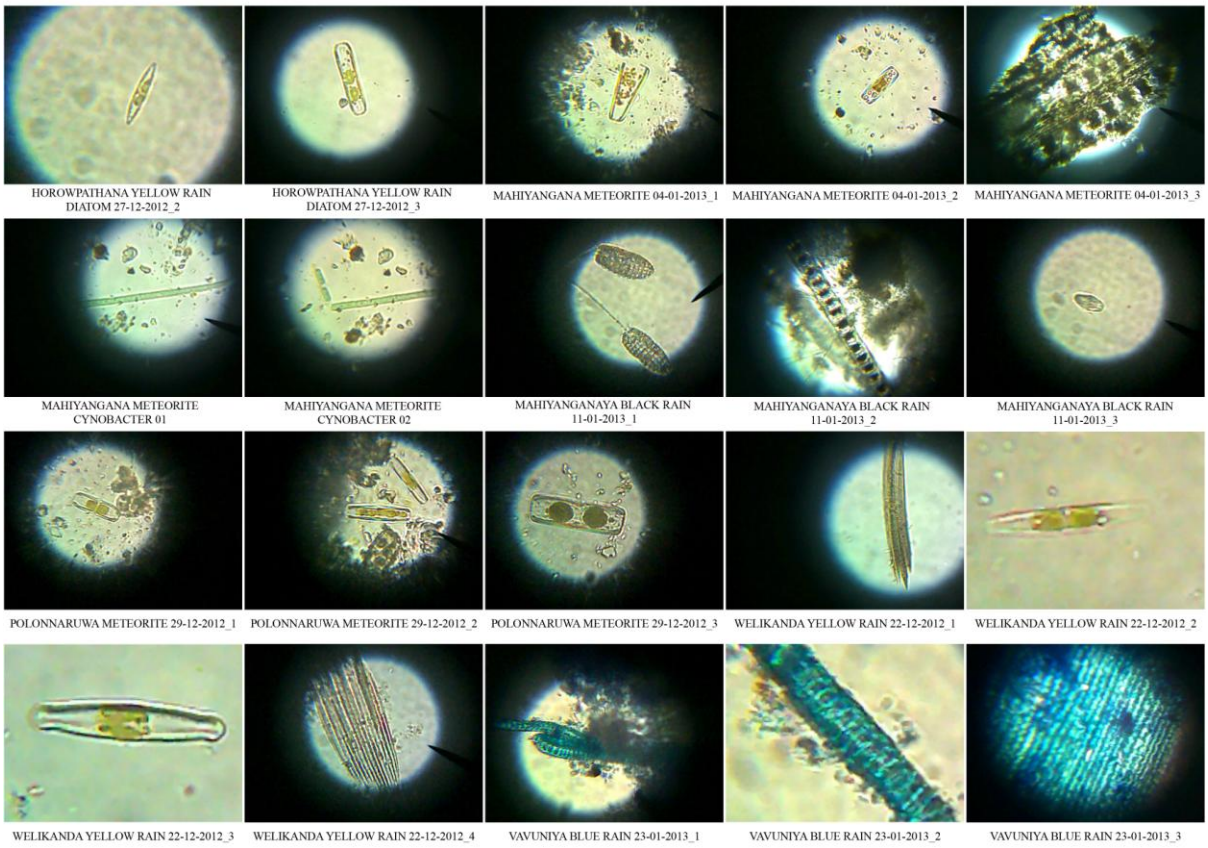
Table 1 below gives the details of the samples examined, including locations and times of collection.

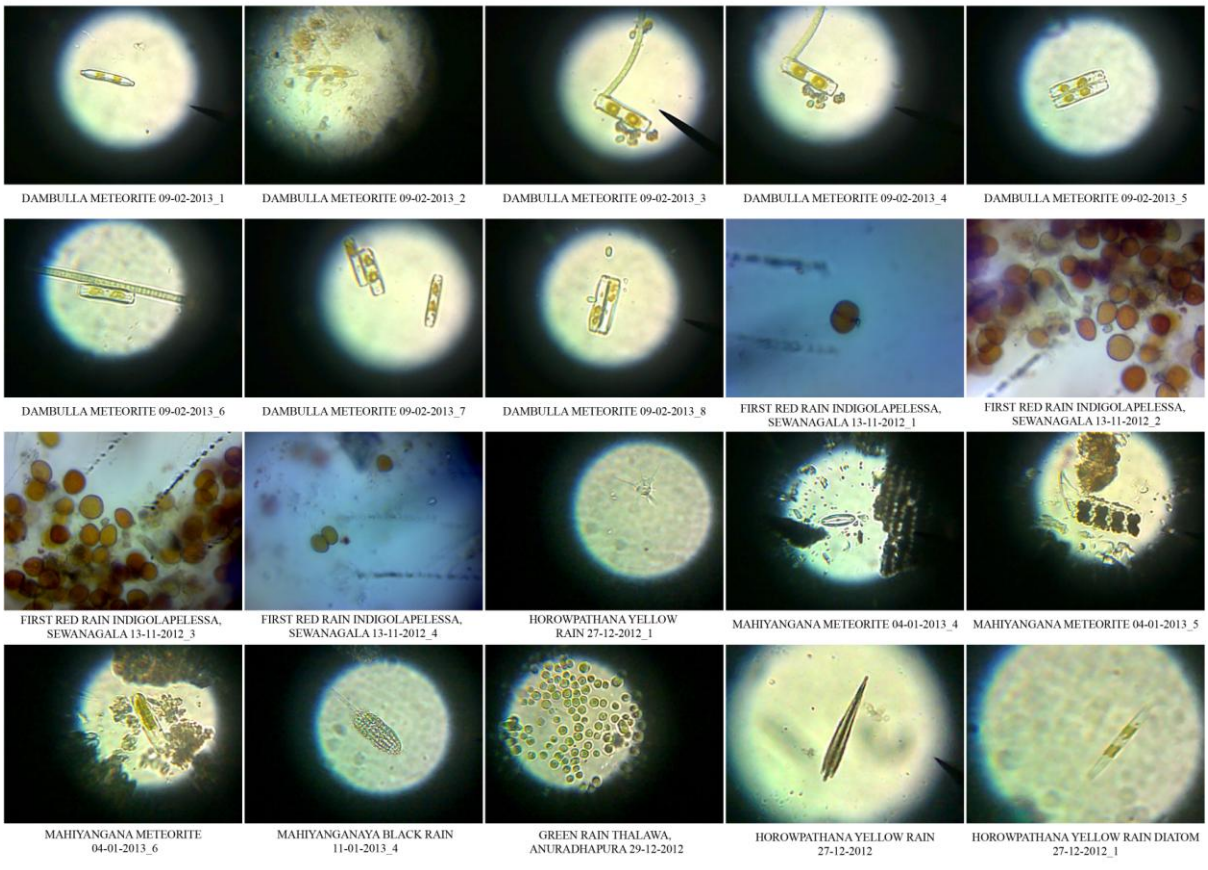
Table 1

| | DATE | LOCAL TIME | PLACE | LATITUDE | LONGITUDE |
|---|---|---|---|---|---|
| BLUE RAIN | 23-01-2013 | 17.00 | VAUNIYA, PATTANICHUR (VAVUNIYA DISTRICT) | 8° 45' 22.20" | 80° 29' 35.31" |
| BLACK RAIN | 11-01-2013 | 15.00 | MAHIYANGANAYA, SORABORA-MEEGAHAPITIYA (BADULLA DISTRICT) | 7° 19' 53.00" | 80° 59' 33.48" |
| METEORITE | 04-01-2013 | 22.00-23.00 (FIREBALL SEEN) | MAHIYANGANAYA, GIRANDURUKOTTE, RAKKINDA (FALLEN INTO THE GARDEN) BADULLA DISTRICT | 7° 27' 46.50" | 81° 01' 02.97" |
| RED RAIN | 13-11-2012 | | INDIGOLAPELESSA, SEWANAGALA | 6° 22' 00.00" | 80° 59' 00.00" |
| GREEN RAIN | 29-12-2012 | | ANURADHAPURA, TALAWA | 8° 13' 29.53" | 80° 19' 56.82" |
| YELLOW RAIN | 27-12-2012 | | HOROWUPATHANA | 8° 33' 33.47" | 80° 50' 06.04" |
| YELLOW RAIN | 22-12-2012 | | WELIKANDA | 7° 56' 59.73" | 81° 14' 42.00" |
| METEORITE | 29-12-2012 | 18.30 | ARALAGANWILA | 7° 46' 09.66" | 81° 10' 29.10" |
| METEORITE | 09-02-2013 | | DAMBULLA | 7° 51' 24.00" | 80° 38' 57.00" |

Fig.1 shows a montage of microscope images of a range of microorganisms discovered in the coloured rain and meteorite interior samples. Motile organisms were found in many instances.

Figure 1: Images of microorganisms


HOROWPATHANA YELLOW RAIN DIATOM 27-12-2012_2
HOROWPATHANA YELLOW RAIN DIATOM 27-12-2012_3
MAHIYANGANA METEORITE 04-01-2013_1
MAHIYANGANA METEORITE 04-01-2013_2
MAHIYANGANA METEORITE 04-01-2013_3
MAHIYANGANA METEORITE CYNOBACTER 01
MAHIYANGANA METEORITE CYNOBACTER 02
MAHIYANGANAYA BLACK RAIN 11-01-2013_1
MAHIYANGANAYA BLACK RAIN 11-01-2013_2
MAHIYANGANAYA BLACK RAIN 11-01-2013_3
POLONNARUWA METEORITE 29-12-2012_1
POLONNARUWA METEORITE 29-12-2012_2
POLONNARUWA METEORITE 29-12-2012_3
WELIKANDA YELLOW RAIN 22-12-2012_1
WELIKANDA YELLOW RAIN 22-12-2012_2
WELIKANDA YELLOW RAIN 22-12-2012_3
WELIKANDA YELLOW RAIN 22-12-2012_4
VAVUNIYA BLUE RAIN 23-01-2013_1
VAVUNIYA BLUE RAIN 23-01-2013_2
VAVUNIYA BLUE RAIN 23-01-2013_3


DAMBULLA METEORITE 09-02-2013_1
DAMBULLA METEORITE 09-02-2013_2
DAMBULLA METEORITE 09-02-2013_3
DAMBULLA METEORITE 09-02-2013_4
DAMBULLA METEORITE 09-02-2013_5
DAMBULLA METEORITE 09-02-2013_6
DAMBULLA METEORITE 09-02-2013_7
DAMBULLA METEORITE 09-02-2013_8
FIRST RED RAIN INDIGOLAPELESSA, SEWANAGALA 13-11-2012_1
FIRST RED RAIN INDIGOLAPELESSA, SEWANAGALA 13-11-2012_2
FIRST RED RAIN INDIGOLAPELESSA, SEWANAGALA 13-11-2012_3
FIRST RED RAIN INDIGOLAPELESSA, SEWANAGALA 13-11-2012_4
HOROWPATHANA YELLOW RAIN 27-12-2012_1
MAHIYANGANA METEORITE 04-01-2013_4
MAHIYANGANA METEORITE 04-01-2013_5
MAHIYANGANA METEORITE 04-01-2013_6
MAHIYANGANAYA BLACK RAIN 11-01-2013_4
GREEN RAIN THALAWA, ANURADHAPURA 29-12-2012
HOROWPATHANA YELLOW RAIN 27-12-2012
HOROWPATHANA YELLOW RAIN DIATOM 27-12-2012_1

**Acknowlegement**

We are grateful to Mr Nadika Udyakantha for assistance in preparing this paper.

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