Unravelling the sky's mysteries and isolating its anomalies: The Unidentified Aerospace Phenomena (UAP) Observations Reporting Scheme

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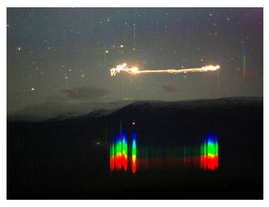
Introduction

Over the last 60 years the UAP subject (popularly known as UFOs) has generated intense interest and invaded the consciousness on a worldwide basis. The need for scrutiny of the UAP topic has been highlighted during the last years when various countries (France, United Kingdom, Denmark, Italy, Canada) officially opened their governmental files to the public. Because the bulk of the UAP information can be attributed to misidentification of some astronomical, natural or man-made phenomena and originates from witnesses who have no scientific training or knowledge of astronomy, it appears to be important to collect testimonies from members of the population that are trained observers.

The existence of a small residue of cases remaining unexplained after analysis, coupled with the possibility that some UAP reports might represent events worthy of research call for an attitude of scientific open-mindedness. Rare atmospheric events, near-earth space phenomena, unexpected consequences of human activity (space debris, electromagnetic signals, and pollution), social, cultural, and psychological phenomena, or interactions among these may be revealed by further study.

Since much of the confusion surrounding UAP is the result of reports of untrained observers, one methodological improvement for collecting reports is to systematically collect observations from people with some preparation for accurately observing and reporting aerial phenomena.

The UAP Observations Reporting Scheme aims to address this challenge through two objectives:
1) providing amateur and professional astronomers a formal mechanism (a questionnaire) for reporting any unexplained phenomena they observe when studying the sky,
2) contributing toward a better understanding of transient atmospheric phenomena by explaining the most common causes of UAP misidentifications for the general public.



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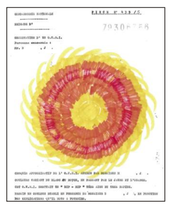

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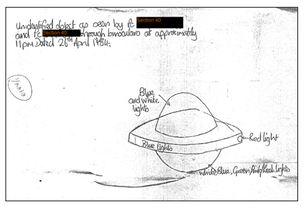

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Figure 1: UAP sightings, some illustrations

Method

Website

A website was launched in October 2009 to provide amateur and professional astronomers a formal mechanism for reporting unexplained phenomena they observe when studying the sky. Initiated within the framework of the International Year of Astronomy 2009 (IYA2009), the UAP Observations Reporting Scheme's website aims to provide a global focus for sightings by astronomers and contribute towards a better understanding of transient phenomena occurring in the atmosphere.

Figure 2: Project's website

Submitting a report

A questionnaire (available in English, French and in short and long versions) has been developed requesting precise details of UAP sightings, including the location, time, azimuth, elevation, angular size and distance, as well as a description of the terrain and weather conditions at the observation point and any sketches, photos, audio or video footage collected during observation.

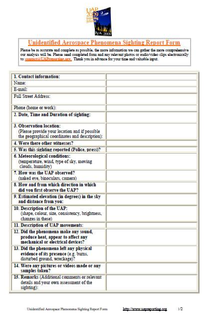


Figure 3: UAP questionnaire

Misidentifications

The website aims also at serving as a forum for educating the public about human, atmospheric and astrophysical phenomena that represent common UAP misidentifications. Amateur astronomers and astronomical organizations who receive questions about UFOs can redirect enquiries from the general public to the website. Possible misidentifications have been divided between nocturnal (most frequent) and daytime, and under each item and whenever possible the following details have been listed: a general explanation of the item, specific telltale signs and finally a "resource-help" section providing links to relevant web-sites where people can further check details and develop their knowledge (e.g. satellite paths stars/planets charts, characteristics of meteors). Two flowcharts of common misidentifications are provided, also split into nocturnal and daytime, as a guide to determine which item or event a sighting most closely resembles, following a series of descriptive clues.

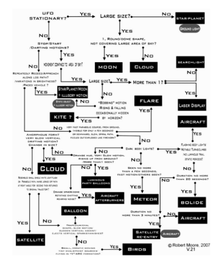


Figure 4: Misidentifications flowchart

Outreach activities

Announcement of the project's existence among the astronomical community and participation at events and conference has occurred through the following venues:
- IYA2009, through its 148 single points of contacts.
- Journalists covering astronomy and space science.
- Magazines (Sky at Night, Astronomy Now, Ciel & Espace).
- Organisations (e.g. American Astronomical Society (AAS), International Astronautics Federation (IAF), Astronomers without Borders (AWB), The World at Night (TWAN)).
- Participation at events (Galilean Nights (IYA2009), Global month of Astronomy (AWB)).
- Presentations to conferences (European Planetary Science Congress (EPSC), Joint European and National Astronomy Meeting (JENAM)).

Results

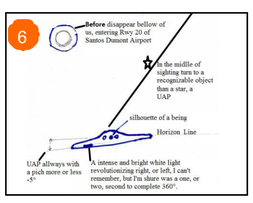
Figure 5: Number of questionnaires received in chronological order and localisation: total of 21 (5 in 2009, 16 in 2010)

Figure 6: Web traffic (period 15 October 2009 – 31 August 2010), 14350 unique visitors, 17125 visits from 130 countries.

Shamakhy Astrophysical Observatory, Republic of Azerbaijan
> 8 November 2009

Observation during two hours of a strange immobile atmospheric phenomena, opposite to the sun.

Assessment: Natural phenomena (probably a sort of Mock sun generated by ice clouds)



Santos Dumont Airport, Rio de Janeiro, Brazil
> 5 October 1971

Four men on board a single engine Cessna airplane watched during 85 seconds a UAP looking like two "inverted dishes" placed rim to rim with a small rounded protrusion centered on its upper surface.

Assessment: Currently unidentified

Rochefort en Valdaine, France
> 30 October 2009

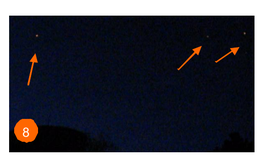
A person noticed a posteriori a UAP on one of its holidays pictures.

Assessment: Photographic analysis shown that the image was asymetric in the horizontal direction. This pattern indicates the presence of either something natural, e.g. a pollen grain, or some other small object very close to the camera during the exposure.

Baden-Baden, Germany
> 18 October 2009

Sighting in the evening of a luminous nebulosity, for 5 to 10 minutes. Five pictures were taken.

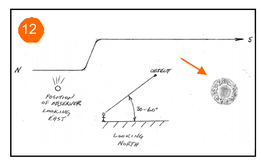
Assessment: Man-made phenomena: A Centaur rocket, followed by US military weather satellite (DMSP F-18) dumped a load of excess fuel into space, resulting in spectacular views.



Dunaújváros, Hungary
> Beginning September 2009

Observation of a dozen of points of lights moving rapidly in the sky, one after the other. A short movie of 15 seconds was made.

Assessment: Man-made phenomena (Chinese lanterns)



Cincinnati, USA
> 6 March 2010

While stargazing with his telescope, an amateur astronomer observed during 3 to 5 minutes a very bright light, looking like a circular ball of fire surrounded by a cloudy, grayish halo.

Assessment: Currently unidentified

Discussion

Launched 11 months ago, the UAP reporting scheme has collected by the end of August 2010 some 21 questionnaires from 14 countries. The majority of these reports originate from the general public (only 9 cases sent from amateur astronomers), principally relate to recent observations (2009:8 and 2010:7)and have been transmitted through the project's questionnaires. While some UAP sightings could be positively identified, some cases are more difficult to correlate with man-made or natural phenomena. The analysis of such cases is made challenging due to short temporal duration of the observations, the lack of details, the non proximity of the witness, and delays in rapidly mobilizing experts working on a benevolent basis.

Positive feedback from the astronomic and scientific community has confirmed the validity of the overall project's concept and the value of specific features. The detailed section on misidentifications serves a an educational tool to the general public, explaining what can be seen in the sky (demonstrated in the cases (5,7,8), combating against pseudo-scientific speculation. Attempting to collect testimonies from trained observers via a specifically designed questionnaire provides a venue for structuring more professional, systematic observations. Whenever there are unexplained observations, there is the possibility that science could learn something new.

Future activities will focus on advertisement in the astronomical community (observatories, organizations, magazines, forums), updating the website (expanding the misidentifications section, creating a Facebook page), participation in astronomical events and seeking collaboration with experts from various fields (e.g. meteorology, geosciences), delineating the process of collecting, analyzing, classifying and publishing UAP events. Ultimately and as foreseen at the project's inception, long term and unbiased research is required.

References
- Project's website / email address : **www.uapreporting.org / Contact@uapreporting.org**
- Some UAP Governmental files:
  France (CNES/GEIPAN): http://www.cnes-geipan.fr/geipan/recherche.html
  United Kingdom (MoD): http://ufos.nationalarchives.gov.uk/
  United States Air Force Project Blue Book (1948-1969): http://www.bluebookarchive.org/default.aspx

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