

What Are the Flying Triangles?

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The December 1999 issue of *Spaceflight* magazine carried two letters from writers looking for explanations of a curious celestial phenomenon: a triangle of lights crossing the night sky.

NOSS/Parcae sightings probably do not account for very many of the flood of "triangle UFO" sightings. The lights are dim, are visible only for an hour or so before sunrise and after sunset, and move in straight lines across the sky.

Letter writer Nick Spall described what he saw from Cornwall at about 10 PM on August 10, 1999. The triangular-shaped formation moved from north to south passed the star Altair.

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Still, the phenomenon underscores the richness of prosaic visual stimuli out there waiting to mislead naive observers, and so would-be researchers should do well to rule NOSS out as an explanation before leaping to conclusions.

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Satellites are not just steady points of light --they can flash and can travel "in formation." They can emit clouds of fuel or waste water or even sport visible thread-like tethers.

"With the naked eye the formation appeared as one object," Spall wrote. However, "through binoculars (7x50) the group was resolved into three steady pinpoints travelling together in formation."

A second letter from A.R. Thompson in Surrey echoed the first account.

"On 4 September 1999 I was sitting in my garden enjoying the cool of late evening," he wrote, "when I noticed three satellites apparently moving in a triangular 'formation' ... I have never witnessed satellites moving in the same direction and maintaining the same position relative to one another."

He described the lights as about stellar magnitude 4, dim but easily seen in a dark, clear sky. Thompson reported he first noticed them at about 21:59 as they moved downwards into the constellation of Pegasus.

"The 'triangle' was about 2 degrees by 3 degrees isosceles. They took between one and two minutes to pass through Pegasus, before fading."

Triangles or triplets?

The two Englishmen hadn't been alone in being perplexed by "flying triangles" in the sky, but when the unearthly answer was eventually found, it promised to also account for many other such reports.

The November/December 1999 issue of *Skyviews*, edited by Canadian amateur astronomy guru Terence Dickinson, contained this amazing account: "On three consecutive nights during the Starfest star party in August 1996, a formation of 3 unblinking starlike objects in a flattened triangular configuration was seen cruising across the star fields by dozens of observers. Veteran stargazers at the meeting had never seen anything like it."

Consultations with amateur satellite-watchers soon identified the sighting as another "NOSS triplet" formation. Computer predictions based on known orbits showed the man-made space objects had indeed been passing overhead at the time of the sightings.

But what kind of explanation was that, really? First of all, what on earth -- or off earth -- is "NOSS"?

Three watching eyes

This space project is so secret that even its official name remains a topic of debate, so observers dubbed it the "Naval Ocean Surveillance System," or NOSS.

The US currently operates three sets of spy satellites, launched consecutively in 1990, 1991 and 1996. These satellites orbit pole-to-pole in groups of three at an altitude of 1,100 kilometers, monitoring the position, speed and direction of all military ships at sea by detecting radio and radar signals and then triangulating the point of origin..

The components of the trio orbit separately under Newton's Laws, and are not technically "in formation." However, their orbits are planned to crisscross during every circuit, being widest apart over ocean areas of greatest interest.

The project's Top Secret name is reportedly "Parcae," the Roman name for the three somber, all-seeing goddesses who observe human activity and determine justice for individuals. If so, perhaps they call the satellites "Clotho," "Lachesis" and "Atropos" at the top secret Parcae "mission control center."

The visible secret

In the case of the two English observers, Ed Cameron, an amateur astronomer in central Texas, found the precise answer -- NOSS satellites flying overhead at the time and same direction as in their reports.

Spall had seen what Cameron calls "the NOSS 2-3 trio," and Thompson had been observing "the NOSS 2-2 trio."

Amateur spacewatchers have known about these objects for a long timer. But there was some debate whether the satellites would be visible to the naked eye.

Professor Brian Hunter of Queen's University in Kingston, Ontario has photographed NOSS 2-2 passing through the constellation Lyra in late 1997.

"This pass was seen [with the] naked eye by many in the Northeastern US," he noted when posting the image to the internet.

Other eyewitness accounts

Also online, a Kansas amateur astronomer calling himself "Stosh" reported the trios "can be seen pretty easily, as I can attest."

"Stosh" provided details. "While looking for meteors on the morning of the '99 Leonids, my 7 year old daughter picked them out, pointed them to me, and even my old eyes caught them right away," he reported. "I'd say they were at least a 4 magnitude. "

He added that there were several reports of others seeing them that morning.

And Daniel Deak of Drummondville, Québec, chimed in, calling naked-eye NOSS sightings "not speculation but ... fact."

"I saw the NOSS 2-2 trio with 3 other people last April when the Moon was in the sky," he noted. "They were at magnitude 3.5, so very easy to see -- in relatively dark skies."