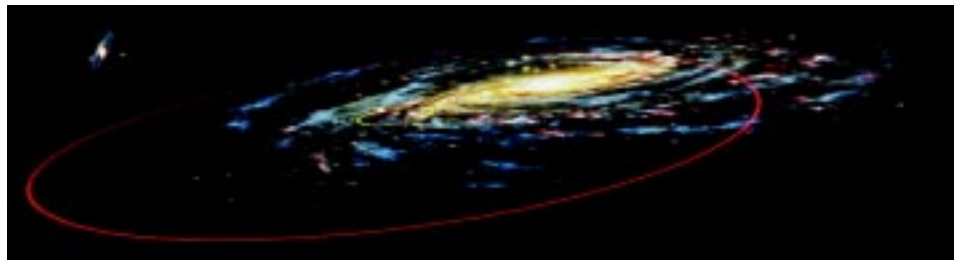


ARE WE ALONE?



A recent article in *New Scientist* magazine, entitled “Mysterious signals from 1000 light years away,” implies that the UC Berkeley SETI@home project has uncovered a very convincing candidate signal that might be the first strong evidence for extraterrestrial intelligence.

Alas, this story is misleading. According to Dan Werthimer, who heads up the UC Berkeley SERENDIP SETI project, this is a case of a reporter failing to understand the workings of their search. He says that misquotes and statements taken out of context give the impression that his team is exceptionally impressed with one of the many candidate signals, uncovered using the popular SETI@home software. They are not.

This signal has been found twice by folks using the downloadable screen saver. That fact resulted in the UC Berkeley team putting it on their list of ‘best candidates’. Keep in mind that SETI@home produces 15 million signal reports each day.

The scheme used is simple in principle (although the technical details are complex): SETI@home data come from a receiver on the Arecibo radio telescope that is incessantly panning the sky, riding “piggyback” on other astronomical observations. Every few seconds, it sweeps another patch of celestial real estate, and records data covering many millions of frequency channels. Some of these data are then distributed for processing by the screen saver. By chance, the telescope will sweep the same sky patch every six months or so. If a signal is persistent – that is to say, it shows up more than once when the telescope is pointed at the same place, and at the same frequency – then it becomes a candidate.

Of course, being persistent doesn’t mean that the source is always on, only that it is found multiple times. In February of this year, Werthimer and his colleagues took a list of two hundred of the best SETI@home candidate signals to Arecibo and deliberately targeted that mammoth antenna in the directions to which the scope was pointed when they were found. Once subjected to this closer inspection, all but one of these signals failed to show. That disqualifies them from being claimed as true detections of a persistent signal. The one that was found again, (the subject of the *New Scientist* article), will no doubt be observed yet again, but the statistics of noise make it fairly likely that at least one of the candidates observed in February would reappear, even if all these signals were simply due to receiver fluctuations.

As for the distance of 1000 light-years claimed in the article’s title, there is clearly no evidence supporting this number, other than the lack of known nearby stars in the beam.

The bottom line is that an experiment like SETI@home always has a candidate list, a table of those signals that look most promising. Indeed, you can find the current versions of this list on their web site. However, there is a great deal of difference between a candidate, and a convincing signal. If any of the major SETI experiments being run by the SETI Institute, by the UC Berkeley group, the folks at Harvard, or the Australians or Italians, discovers a signal that they think is of extraterrestrial origin, they will immediately take steps to confirm this, both with their own scientists and with observers at other organizations. You will find information about it on their web sites, and in multiple media outlets.

Would you recognise extra-terrestrial life if it came down and stood in front of you?

As the image of a young starfish (left) shows, ‘life’ may not be little green men with antennas and two legs.

Image right: Claimed to be fossil evidence of life on Mars.

