

Area 51 Mailing List Digest v001.n010

24 Sep 1996

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Message #1

From: campbell@ufomind.com (Glenn Campbell, Las Vegas)
Subject: **Astronomy PhD on Zeta Reticuli**
Date: Mon, 23 Sep 1996 07:49:01 -0700

Date: Sun, 22 Sep 1996 22:14:19 -0700
To: campbell@ufomind.com (Glenn Campbell, Las Vegas)
From: Mark Hartoog <markht@worldnet.att.net>
Subject: **Re: AREA 51: Possible New Planet in Zeta Reticuli!**

>Do we have an astronomer in the house? Can someone examine the data
>on the web site and tell us what it means?

I have a PhD in astronomy (U of Michigan). I worked as a Post Doc at Hale Observatories and I was on the Staff at Lick Observator (U. of Calif Santa Cruz) for 3 years. However, I have not worked in astronomy since 1979, so alot of my astonomy is a little rusty.

The information at the web site you indicated looks to be for real. I still have a old copy of the Yale Catalogue of Bright Stars and I looked up HR 1010 in it. It is indeed Zeta 2 Reticuli. Zeta 1 Reticuli (HR 1006) is a slightly fainter star a few arc minutes away (60 arc minutes = 1 degree). These two stars are close enough together you would only see one star with a naked eye, hence it was called Zeta Reticuli. You could probably see it was two stars with a small telescope or binoculars. Astronomers named these two close stars Zeta 1 and Zeta 2 Reticuli.

According to the Yale Catalogue, Zeta 1 Reticuli is a G2 V star and Zeta 2 Reticuli is a G1 V star. This means they are both very similar to our Sun. Both of these stars are "High proper motion" stars. This means they are moving on the sky. If you take pictures 10 or 20 years apart, you can see that these stars have moved relative to the background stars. This also means they are nearby stars. The proper motions of both Zeta 1 Reticuli and Zeta 2 Reticuli are almost the same and the radial velocity (speed the star is moving towards or away from us) is also listed as the same in the Yale Catalogue. This means Zeta 1 Reticuli and Zeta 2 Reticuli are probably related some how. By this I mean formed from the same star cloud and moving together through the galaxy. They might even be orbiting each other.

I am not familiar with the details of Lazar's or Jarod's claims. If somebody just made up this story about Zeta 2 Reticuli, then the someone must have know a little bit about astronomy. They picked a star which was nearby and is very similar to our own sun. There are catalogues and lists of nearby stars published in many places, so any bright person who took a undergrade course in astronomy could probably find this information, if they looked hard enough.

- Mark Hartoog

as ours are to those of the beasts that perish,
intellects vast and cool and unsympathetic,
regarded this earth ...

Message #3

From: campbell@ufomind.com (Glenn Campbell, Las Vegas)
Subject: **Area 51 Invasion Planned - Don't Tell!! [Loon]**
Date: Mon, 23 Sep 1996 09:22:30 -0700

NOTE TO LIST: Here at the Research Center, I get so much great lunatic material that it is hard to resist passing some of it along for entertainment. At the same time, I am concerned about confusing these ridiculous items with the more rational work of this list. Therefore, I suggest that these items can be sent to the list provided (a) They are reasonably amusing, (b) there is some Area 51 connection, no matter how dubious, and (c) "Loon" appears in the subject line, so readers know the content is meaningless. Wacky material that would normally be rejected from this list can thus be accepted as "anthropological research".

Now, can anyone guess the age of this correspondent. And should I feel bad about letting the cat out of the bag? Nov. 21 at 3:15am. (Dammit -- I am a government agent!)

G.C.

Date: Sun, Sep 22, 1996 1:47 PM PDT
From: XXXXXXXXXXXX
Subj: BLUE PRINTS
To: PsychoSpy
cc: XXXXXXXXXXXX

<< dammit i told u too send me the blue prints of area 51 right away . I am going to break into it on NOVEMBER 21st(this info is classified). you may think this is impossible .but not my friend. I am one of the guards at area 51 and i have a entering card . there will be 2 more people .i will go at 3:15am. I will be at las vegas first. i will go north east on 15and get off on 93 between ash springs and hiko(DO NOT TELL ANYBODY ABOUT THIS OPERATION)then when we get in the perimeter of the hanger we will shoot down the ground,heat,and noise sensors. we are going to retrieve the 2 last copies of project blue book and 5 perserved aliens also the xrays of them and autopsy tapes and files. This operation will be a success and they will not catch us because we will have 10 5pound of c4 rigged on the base corners so send me some blue prints.

IF YOU CANT DO THIS NOTIFY SOMEONE THAT CAN

HURRY!! >>

Message #4

From: Joe LeSesne <raver187@m-net.arbornet.org>
Subject: **Another way to check Lazar's story**
Date: Mon, 23 Sep 1996 12:23:25 -0400 (EDT)

Or: Bodes Law, Bob Lazar, Kepler and a Calculator.

Glenn,

I just found another possible way that this recent discovery could confirm part of Lazar and Jarod 2's story. I found the length of the Zeta 2 Reticulum 4's year. How did I do this you might ask? Simple, with calculator in hand I used two elementary

laws of Astronomy. Bode's Law and Kepler's 3rd Law.

The numbers I used were from that data on the Extrasolar Planets Encyclopedia Web Site are these:

Semi-major axis measured in Astronomical Units, and Period measured in days. The newly discovered planet has a semi-major axis of 0.14 AU and a period of 18.9 days

Some Definitions:

1 Astronomical Unit (AU) = 93 million miles, the distance between the Earth and Sun.

Semi-major axis is the measurement of the planets orbit in relation to it's star in Astronomical Units. The Earth's semi-major axis is 1.00 AU.

Period is the amount of time it takes to complete one orbit, a planet's period is it's year. The Earth's Period is 365.26 days.

First, Bode's Law:

As I stated before if you apply Bode's law which states: The semi-major axis of each planet is double that of it's neighbor nearer to the star. Or simply each planet is about twice as far from it's star as it's inner neighbor. IE: Jupiter is 5.2 AU from the Sun, Saturn is 9.5 AU. Now if you apply this to the new discovery of a planet around Zeta 2 Reticuli and you assume this planet is the closest to it's star this making it the closest planet to Zeta Reticuli 2 (Reticulum 1 we will call it in keeping with Lazar's naming convention which I should add differs from the IAU convention which would name it Zeta 2 Reticulum A - so far) At 0.14 AU it's hard to imagine a closer planet to Zeta 2 Ret., for comparison Mercury is at 0.387 AU from the Sun so this newly found planet is Reticulum 1 in all likelihood. Using Bodes law we can extrapolate where the other planets of Zeta 2 Reticuli *should* be.

Kepler's 3rd law relates the planet's period or year to it's semi-major axis of it's orbit. Mathematically this is expressed as $P(\text{squared}) = a(\text{cubed})$. P is the Period measured in earth years and a is the semi-major axis measured in Astronomical units (AU)

Using both of these we can find out the length of the year on each hypothetical planet in the Zeta 2 Reticuli system, INCLUDING Reticulum 4, Bob Lazar's home of the Greys.

Now lets apply Bodes Law and Kepler's 3rd Law:

Planets of the Zeta 2 Reticulum System

Planet	Semi-Major axis	Period(days)	Period(years)
Reticulum 1	0.14 (AU)	18.9 (days)	0.052 (years)
Reticulum 2	0.28	54.0	0.1481
Reticulum 3	0.56	152.9	0.4196
Reticulum 4	1.12	432.6	1.12

So one Reticulum 4 year is equal to roughly 1.12 earth years OR 432 days. And it is in roughly the same position in Zeta 2 Ret's "life-zone" as the Earth is in the Sun's. Zeta 2 Ret is a G1V spectral class star, the sun is a G2V. They are both G class main sequence stars, the difference between the 2 and the 1 indicates that Zeta 2 Reticuli is a little hotter than the sun. The higher the middle number the lower the temperature. The V means they are both main sequence (middle age) stars but given Zeta 2 Reticuli's higher temperature, and lower metallicity, it is probably older than the sun by a couple billion years. So basically the Sun is a little cooler and younger than Zeta 2 Reticuli.

For comparison here is a breakdown of the inner planets of our solar system.

Planets of the Solar System

Planet	Semi-Major axis	Period(days)	Period(years)
Mercury	0.387 (AU)	87.97(days)	0.2409(years)
Venus	0.723	224.7	0.6152
Earth	1.00	365.26	1.0000
Mars	1.524	686.98	1.8809

So this brings me to my conclusion. We can check part of Lazar and Jayrod 2's story by asking the simple question: "How long is a year on Reticulum 4?" If the answer is anywhere in the neighborhood of 410-445 days (I'm allowing alot for error) then their stock will have gone up even more. Keep me posted as to what you find out.

Joe Le'Sesne <raver187@m-net.arbornet.org>

Message #5

From: ytivarg@value.net
Subject: **HALF OF GALAXY'S STARS MAY HAVE PLANETS**
Date: Sun, 23 Jun 1996 04:31:39 +0000

On Sun, 22 Sep 1996, Glenn Campbell, Las Vegas wrote:

> Given that astronomers seem to finding quite a few planets
> these days (9 confirmed so far), what is the probability - given all
> those billion, billion star, etc. - of finding one right where we
> want it?

The probability of finding a planet where you would want is pretty high according to this article

HALF OF GALAXY'S STARS MAY HAVE PLANETS!

from Nando Times <http://www.nando.net>

NEW YORK (Sep 11, 1996 5:36 p.m. EDT) -- After a year in which scientists discovered several apparent planets outside the solar system, a new analysis concludes that folks, you ain't seen nothin' yet.

Hidden planets may be lurking around half the Milky Way galaxy's 100 billion stars, the analysis suggests.

"We'll see an explosion" in planet discoveries, said researcher Steven Beckwith of the Max Planck Institute for Astronomy in Heidelberg, Germany.

He presented the evidence for his optimism in Thursday's issue of the journal Nature with Annelia Sargent of the California Institute of Technology in Pasadena.

Scientists want to find distant planet systems not only for the tantalizing possibility of finding life, but also to test theories of how the solar system formed.

There's no direct way to tell now how many ordinary stars like the sun have planets.

For years, astronomers have believed planets were rare. But the rush of reports in the past year has encouraged the belief that they are quite common, and Beckwith's 50 percent estimate fits in with that thinking, said Steve Maran, assistant director of space sciences at the Goddard Space Flight Center in Greenbelt, Md.

Not everyone is guessing that high. David Black, director of the Lunar and Planetary Institute in Houston, said he wouldn't be surprised if the answer turned out to be 10 percent.

Since last fall, at least eight stars have been found to have a telltale wobble that suggests they're being pulled around by orbiting planets. Some researchers maintain, however, that at least some of

these orbiting bodies may be failed stars called brown dwarfs instead.

In the Nature article <http://www.nature.com> , Beckwith and Sargent analyze previous studies to argue that a lot more planets are out there. They note that in several regions of the cosmos, half or more of very young stars show signs that they're surrounded by disks of gas and dust that look like the forerunner of the solar system.

Scientists believe that when the sun was young, a disk of gas and dust surrounded it like a huge spinning pizza. Dust in this disk started to clump up, and some of these clumps grew into planets.

In all, it took maybe 10 million to a few hundred million years to build the solar system's planets, which sucked up material from the disk.

"If you look at other stars, you have evidence of enough material and enough time and the right conditions to make planetary systems," Beckwith said in a telephone interview.

dave
ytivarg@value.net

Message #6

From: Mark Hartoog <markht@worldnet.att.net>
Subject: **Re: Possible New Planet in Zeta Reticuli!**
Date: Mon, 23 Sep 1996 21:16:55 -0700

Here is some further info on Zeta Reticuli gleaned by this reformed (ie ex) astronomer. I got all these papers from the ADS online abstract service.

First of all in the paper "Wide Binaries in the Woolley Catalog" by Wasserman and Weinberg (Astrophysical Journal, vol 382, p149, 1991), the authors put Zeta 1 and 2 Reticuli on a list of wide visual pairs that are likely to be gravitationally bound binary stars.

In the paper "Statistical Studies of Visual Double and Multiple Stars II A Catalogue of Nearby Wide Binary and Multiple Systems" by Poveda, et al (Revista Mexicana de Astronomia y Astrofisica, Vol 28, p43, 1994), the authors give the angular separation of Zeta 1 and 2 as 310 arc seconds (60 arc seconds = 1 arc minute, 60 arc minutes = 1 degree). They give the actual separation as 4958.54 Astronomical Units (AU). Clearly this number was printed by a computer program that was giving all separations to two decimal places. In light of the accuracy of the data (and guess work) that went into this number, we should just say the separation is about 5000 AU. To get an idea of what this means, the Earth is 1 AU from the Sun, this is the definition of the AU. Pluto, the most distant planet in the solar system, is 39.44 AU from the Sun. This makes the separation between these stars more than 100 times the distance to Pluto. This distance is about 4 light Weeks.

In a close binary system, many astronomers question whether planets could exist in stable orbits for anything like the age of the Earth, but this separation is wide enough that this is probably not a problem.

Another paper with some info on Zeta Reticuli is "On the Physical Existence of the Zeta Her Moving Group: A Detailed Analysis of Phi 2 Pavonis" by Porto De Mello and Da Silva (Astronomical Journal, Vol 102, p1816, 1991). A "moving group" is a group of relatively nearby stars which all appear to be moving past us in the same direction. They are a group of stars which formed out of one cloud of gas and are now all moving together in the direction the cloud was moving. Some of these groups are well established and have been studied for a long time. The Zeta Her group, on the other hand, is a rather ify moving group. It is not completely clear it actually is a moving group or, if it is, which stars are members of it, but Zeta 1 and 2 Reticuli are proposed members of this moving group. This paper analyses another of the proposed members and then summarizes the results of the analysis of 10 proposed members,

including Zeta 1 and 2 Reticuli. After this work, they are still not sure the Zeta Her group is real, but they have not ruled out Zeta 1 and 2 Reticuli as members. (Strangely, they suggest that Zeta Her, for which the group is named, is probably NOT a member). If this really is a moving group, they estimate the age at about 6.3 billion years. The Earth/Sun are generally thought to be ~4.5 billion years old. This age would nicely allow for a very advance civilization to develop.

The last paper with some info is the one mentioned on the UFOMIND Web page, "Zeta-1 and Zeta-2 Reticuli - A puzzling solar-type twin system" by Da Silva and Foy (Astronomy and Astrophysics, vol 177, p 204, 1987). Unfortunately, only a short abstract is online, so I have not seen the complete paper. The "puzzling" part mentioned in the title is that the surface gravity they determined is high for a solar type star. This means the star is smaller in diameter than the Sun, although about the same mass. They suggest this is because of an unusually high Helium abundance. These kind of analysis are very tricky things to do (I know because I use to do this kind of research 20 years ago). If this is true, it certainly is not any indication of extra-terrestrial life. My guess would be that a massive star exploded in the cloud these stars were forming in, and dumped a large amount of Helium on these stars. That massive star and all remains of it were gone billions of years ago. Another possible explanation is that the recently discovered planet skewed up the determination of the surface gravity, and the Helium abundance is really normal, but that is just speculation. I would like to get a look at this paper. If I can find time to get to a university that has this journal, I will let you know what I learn from reading the actual paper.

I should add that I do NOT recommend that any of you should run out and try to read these papers. They would not make much sense to anyone who does not have a very strong background in graduate level astronomy. If you do anyway, you should be aware that astronomers use alot of different names for the same star. The names Zeta 2 Reticuli, HR 1010, HD 20807, and Gl 138 are all used in these papers, and there are atleast 7 or 8 more names for this star that could be used. Fortunately, the ADS Abstract Service knows all the other names, and can search for papers that use only one of the other names.

I should also comment on the Darwin Space Infrared Interferometer Project page that you have linked, which is the only source I found for the period and mass of this planet. This page indicates that Zeta 2 Ret = HR 358 = HD 9826. This is wrong and was apparently copied from the entry above for Upsilon And, which is also indicated to be = HR 358 = HD 9826. Upsilon And is = HD 9826, but is actually = HR 458, not 358. I hope the rest of the info on this page is more accurate. I'm sending these corrections to the author of this page.

Mark Hartoog
Los Gatos, CA.

Message #7

From: "A.J. Craddock" <craddock@ix.netcom.com>
Subject: **Zeta Reticuli - A day in the Life**
Date: Mon, 23 Sep 1996 22:55:16 -0700

From the instructions from the Testor Model kit of the Lazar Sport Model Saucer (I have lent my Lazar Tape out, and of course never got it back).

I might also add that I have never heard anyone credibly deny the physics espoused in Bob Lazar's tape.

Tony Craddock

QUOTE

The constellation of Reticulum can only be viewed from our planet's southern hemisphere.

Zeta Reticuli 1 & 2 star system. These stars are located in the constellation of Reticulum which can only be seen from the southern hemisphere. Zeta Reticuli is a binary star system, which means it has two stars, and is located approximately 38 light years from earth. These beings are from Reticulum 4 which is the 4th planet out from Zeta 2 Reticuli. This

is the way star systems were referred to in these reports. They simply designate the name of the star and then number the planets from the nearest to the furthest from the star. For instance, our star, the Sun, was designated as "Sol" and the earth was referred to as "Sol 3" because we're the third planet out from the sun. And a day on Reticulum 4, the planet these aliens are from, is 90 earth hours long, which indicates that, just like earth, their planet also rotates on its axis as it orbits around Zeta 2 Reticuli.

END OF QUOTE

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