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Pluto images clinch the existence of water, methane, and life on this typical dark matter planet

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ABSTRACT

Pluto and Charon initial images from the New Horizons spacecraft fly-by show ~ 3 km high mountains that can only be ~ 45 K water ice. Frozen nitrogen, methane, ethane, CO, etc. gases are not strong enough to make mountains this size on the planet pair of mass (1.2, 0.2) 10^{22} kg. Between the water ice mountains are oceans of methane slush mixed with many other gaseous by-products of life. Color images of Pluto-Charon show a brownish color consistent with active life forms infesting a substantial fraction of the dark matter planets and moons of the Galaxy, and all other galaxies, as expected from Hydro-Gravitational-Dynamics (HGD) cosmology; that is, dark matter clumps of a trillion planets that merge to host life and make all the stars, Gibson, Schild and Wickramasinghe (2011), spread by Hoyle-Wickramasinghe cometary panspermia.

Keywords: Cosmology, star formation, planet formation, extraterrestrial life.

1. INTRODUCTION

Rapid advances in space telescope technology are now resolving questions that have troubled cosmology and biology for thousands of years. Where did life come from? Where did the universe come from? Now evidence of

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extraterrestrial life and abundant host planets from Pluto-Charon can be considered, and this and all other evidence strongly supports the collisional-fluid-mechanics based cosmology (termed HGD) that favors life formation, versus the standard collisionless ΛCDMHC cosmology that does not. Because the cosmology determines whether or not life is possible without miracles, the 2011 Nobel Prize in Physics is falsified by the existence of extraterrestrial life, Gibson, Wickramasinghe and Schild (2011)[4]. From HGD there is no accelerated expansion of the universe driven by negative pressures of dark energy. There is no dark energy. There is no cold dark matter. The generally accepted concept that life is confined to Earth is falsified by an abundance of observational evidence supporting the Gibson (1996)[1] and Schild (1996)[2] Hydro-Gravitational-Dynamics (HGD) cosmology that predicts a Biological-Big-Bang at 2 Myr and supports the long-standing, and much-maligned, Hoyle-Wickramasinghe thesis of cometary-panspermia. NASA roadmaps to astrobiology (Des Marais, David J. et al. 2003)[5] based on ΛCDMHC cosmology are highly misleading (Gibson 2015)[6,9] and loaded with mistakes and false questions. For example, the existence of extraterrestrial life is no longer a question, it is an observational fact[7,8]. Tons of extraterrestrial organisms are observed to rain down on Earth every day. All biology is astrobiology.

At the 0.3 Myr (10^{13} s) plasma-to-gas transition, the kinematic viscosity ν decreased by a factor of 10^{13} and the fragmentation scale decreased from galaxy-mass ($\sim 10^{43}$ kg) in the plasma to < Earth-Mass ($\sim 10^{24}$ kg). All the hydrogen and helium produced by the big bang became hot-gas-planets in 13.7 billion year old Jeans-mass-clumps of a trillion planets, from which globular star clusters would result if all the planets merge to form stars. These clumps are termed Proto-Globular-star-Clusters (PGCs). They all have the density $\rho_0 \sim 10^{-17}$ kg m^{-3} existing at 30,000 years after the big bang (10^{12} s), when protogalaxies began fragmenting in the plasma. This is also the density of all globular star clusters in all galaxies, which is no coincidence: ρ_0 is a preserved fossil of the turbulent

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plasma density. The expected Oort cavity size $L \sim (M/\rho_0)^{1/3} \sim 10^{16}$ m has been repeatedly observed, where M is the mass of a binary star. Most stars are binary. Most dark matter planets should be binary, like Pluto-Charon.

Initially the planets were 3000 K hot hydrogen and helium-4, a temperature that exceeds the boiling points of stainless steel and most rocks. Dark matter planet mergers produce larger planets and eventually the first stars. The stars continue to feed on the planets until they explode as supernovae. If they feed slowly they make carbon stars and SNeI events. If they feed rapidly they make iron and nickel stars and SNeII events. The rapid r-process and slower s-process supernova oxides of carbon, nitrogen, iron and nickel are collected gravitationally by the planets of a PGC and are reduced by the hydrogen to form water[13] as superheated steam and the iron and rocky cores. Proof of this condensation is the millimeter size, gas-free condrules found in most meteorites that condensed as hot rain-drops soon after the fragmentation of dark matter planets in clumps at 330,000 years, Figure 1 (Journal of Cosmology (2013), Vol. 22, No. 19.1). The lack of bubble inclusions shows the white-hot olivine droplets were not formed by impact or volcanic ejection from the Earth full of tell-tale water and air bubbles, but condensed at ~ 3000 K as rock-vapor rain colored by nickel.

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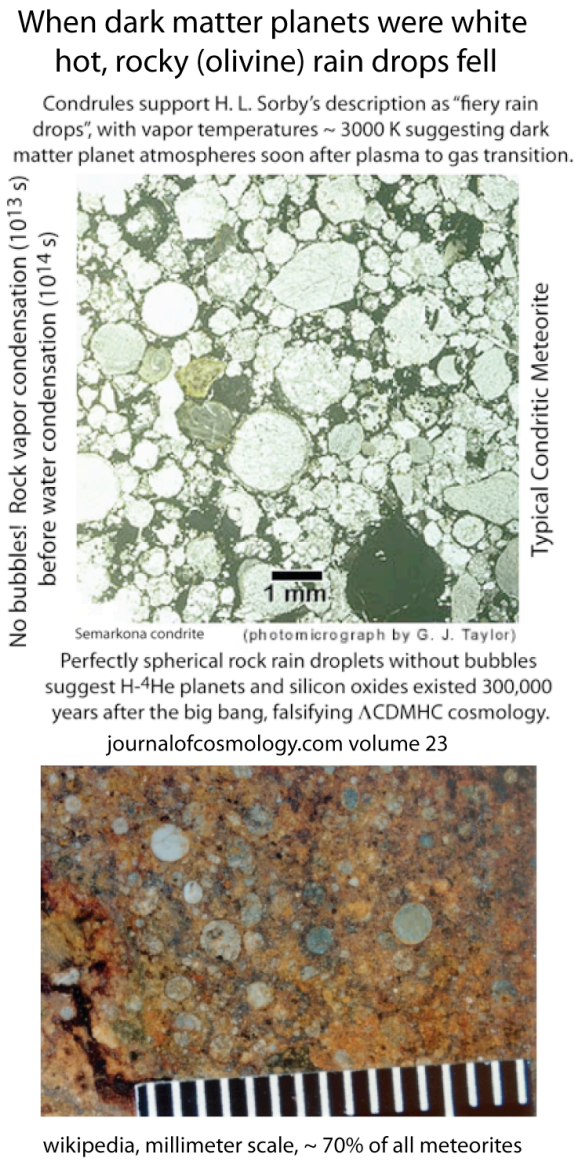

Figure 1. Evidence from meteorites that ~ $10^{\sim 80}$ planets formed hot at 10^{13} s when the plasma turned to gas. The time needed was the free fall time 10^{12} s.

Water is crucial to the formation of life. Figure 2 (from the Journal of Cosmology Volume 24 on HGD fluid mechanics)[10] shows how large amounts of water were produced in the early universe according to HGD cosmology, compared to ~ 10^{-7} less by ΛCDMHC cosmology. The Bialy et al. (2015)[13] mechanism for producing water involves highly questionable speculations from ΛCDMHC, and should not be taken seriously, as discussed in the Commentary[10].

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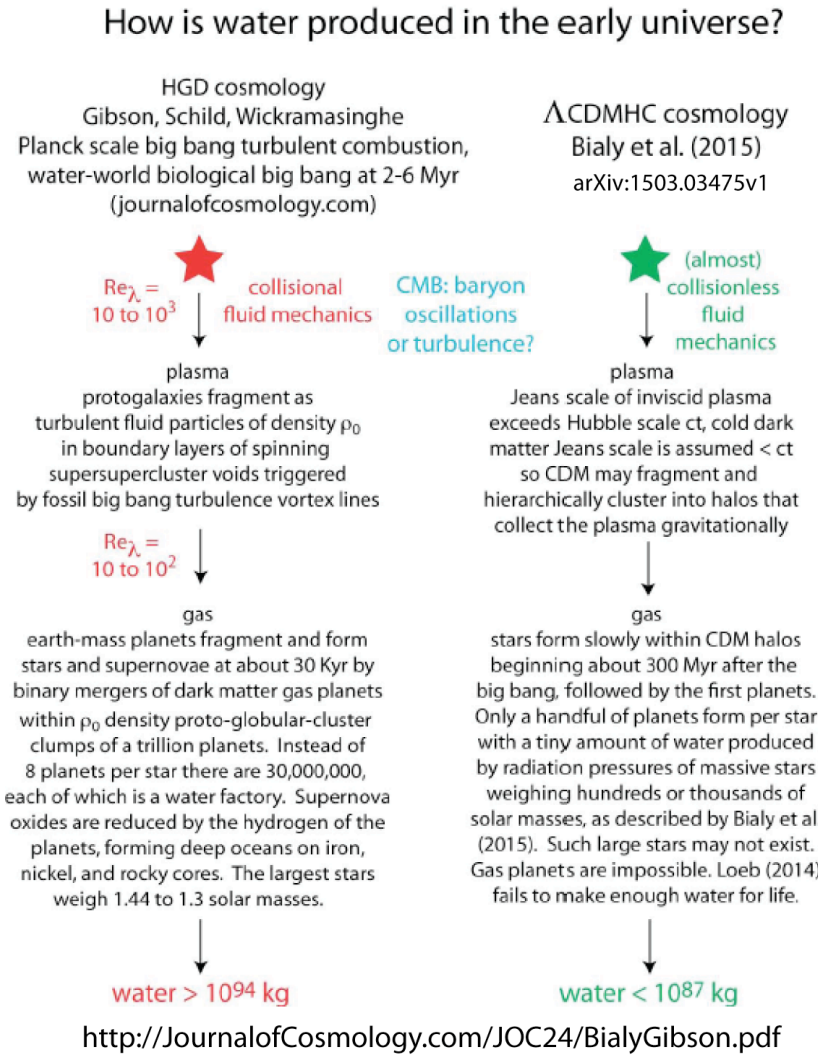

Figure 2. More water is formed by HGD cosmology[13] (left) than for ΛCDMHC cosmology (right) because each of the 30,000,000 HGD hydrogen dark matter planets per star (not 8) is a water factory[10].

Figure 3 is an initial color image of Pluto from the New Horizons flyby. Mountains were observed that can only be water ice, because water is much stronger than the other frozen gases present on Pluto-Charon, that make slush. As shown in the top panel, this is cometary panspermia in action. The planet-pair is a comet, with nitrogen gas streaming out from the two planets driven by the radiation of the sun. The brownish color reveals unknown life forms carried by

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the comet, which produce the slush oceans of methane and other organic gases shown schematically in the bottom panel. The false colors reflect spectral signatures of other gases like CO and N absorbed in the methane.

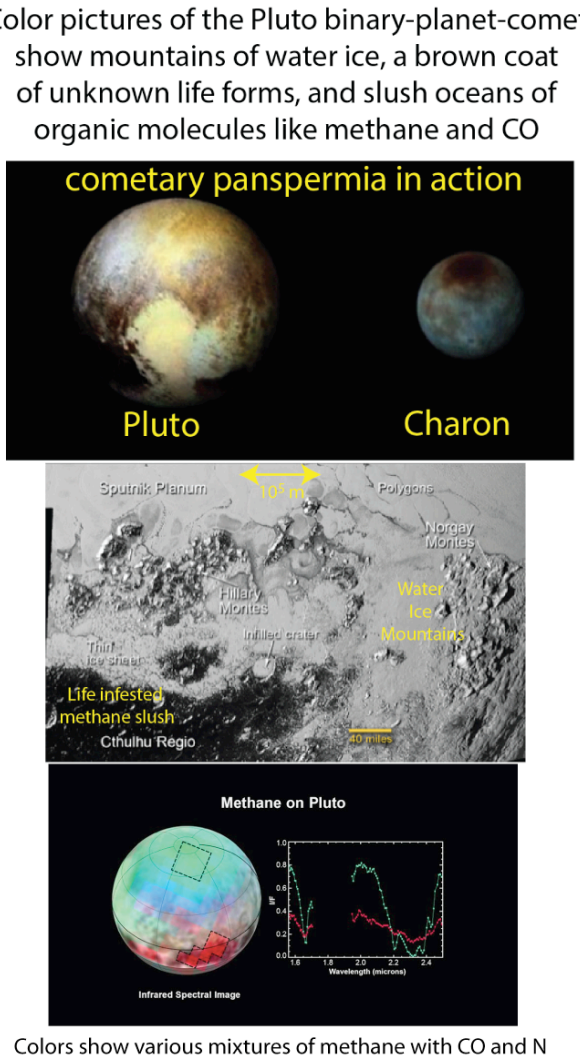

Figure 3. Initial color images of Pluto-Charon and its water ice mountains.

NASA has promised to provide more detailed information from the New Horizons flyby after a reasonable period for analysis.

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2. THEORY

The key to understanding how life appeared in the universe is to understand how very early the planets appeared and how very, very, many of them there were. Rather than only 8 planets per star there are about 30,000,000. All these formed 300,000 years after the big bang, not 300,000,000 years as assumed by the standard ΛCDMHC cosmology. Only a few came from stars, if any. Planets come from proto-galaxies, which fragmented entirely into hot-gas planets at the plasma to gas transition, as proved by Fig. 1.

One must recognize the importance of the kinematic viscosity ν to gravitational structure formation. At the beginning of the gas epoch all conditions were well known. The density ρ and rate of strain γ were preserved as turbulent fossils with the values (γ_0, ρ_0) existing at the time of first fragmentation of plasma protogalaxies 10^{12} seconds[1,11,12]. The composition was that of the primordial gas, 75% hydrogen and 25% helium-4, so the kinematic viscosity is easily computed from the temperature of plasma to gas transition 3000 K. From HGD cosmology the viscous gravitational scale $L_{SV} \sim (\gamma\nu/\rho G)^{1/2}$ was about 10^{14} meters because γ_0 was 10^{-12} s^{-1} and ν was 10^{13} m^2 s^{-1}, with $\rho_0 \sim 10^{-17}$ kg m^{-3}. Thus the planet mass of fragmentation L_{SV}^3 ρ_0 was ~ 10^{25} kg, or approximately one Earth mass.

The Jeans mass at the time of plasma to gas transition was a million solar-mass, or about 10^{36} kg. All the ordinary baryonic mass of the universe was thus converted to gas planets at 10^{13} seconds (300 Kyr). These clumps of a trillion planets appeared before any stars, and were the raw material of the first star in a gravitational free fall time of 10^{12} seconds after transition at 10^{13} seconds. Figure 4 shows how such planets hosted the formation of life. First the stainless steel (iron and nickel) metal cores condensed. Then the "firey" rain drops of olivine fell to coat the metal cores. Finally water rain, formed by hydrogen reduction of supernovae oxides, coated the cores with deep hot water oceans full of the nasty

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reduced chemicals that were perfect for the primordial soup of oceans evolving organic chemistry and DNA RNA life as we know it.

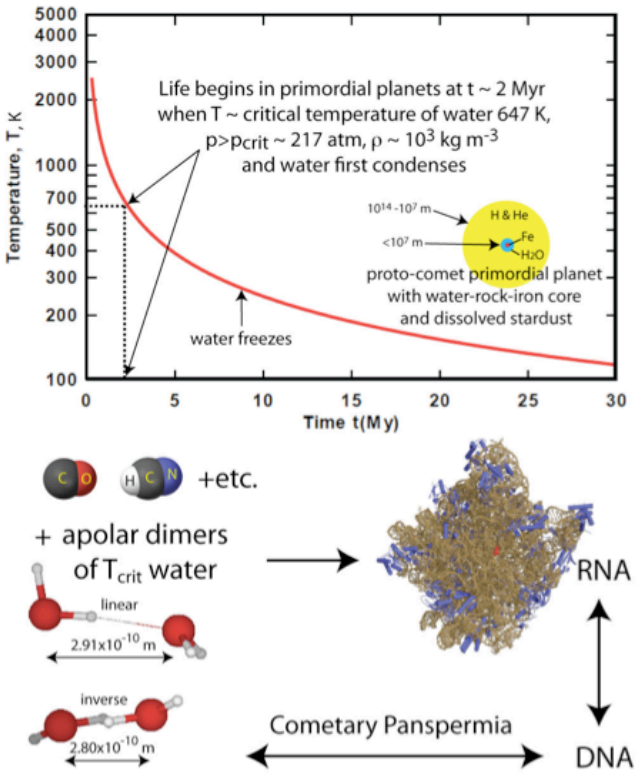

Figure 4. Formation of life according to HGD cosmology.

The first oceans condense at 2 Myr when the universe temperature matches the critical temperature of water 647 K. Critical temperature water is apolar, so abiotic materials of organic chemistry like carbon monoxide and hydrocyanic acid can easily dissolve. Stars form by mergers of planets in their PGC clumps. Stars die from overfeeding of stars by planets. Supernovae spread oxides to the planets, which are reduced by hydrogen atmospheres of the planets to form deep-water oceans and iron-nickel rock-coated cores. Complex self-replicating, auto-catalyzed, therefore living organic RNA and DNA molecules, evolve until 8 Myr when the planet oceans freeze, Gibson, Wickramasinghe and Schild (2011).

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As shown in Fig. 4, evolution continues after 8 Myr in submerged ocean layers, but at a reduced rate. Information about the millions of possible organic chemical reactions, as well as progress toward the most competitive living organisms, proceeds among the 10^{80} primordial gas planets in their PGC clumps. Within the clumps, information is shared by planet mergers from which stars are formed. Between clumps, information is shared by supernovae. Between galaxies, information about life and organic chemistry is shared by the powerful jets of active galactic nuclei. The density within the hot gas PGCs where life began was a billion times the density of the universe when the first planets form from ΛCDMHC cosmology; that is, 10^{-17} kg m^{-3} compared to 10^{-26} kg m^{-3}.

The maximum number of planets with temperatures perfect for the evolution of intelligent life as we know it on Earth occurred at 5-10 Myr after the big bang. With so many eligible planets, both life and intelligent life were not only possible, but inevitable. Information about the earliest evolution is presumably locked in the DNA of extraterrestrial life that rains on the Earth in tons per day. The first place to look for communications from the earliest intelligent life is clearly in the DNA of extremophiles (like red rain) capable of surviving to tell the story of organisms with the technology and intelligence to lock it there.

3. OBSERVATIONS

Important observations about the galactic dark matter and dark energy are those from the Helix Planetary Nebula, shown in Figure 5 in both the optical and

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infrared frequency bands. Helix is the nearest PNe to Earth, and serves as a generic example of star formation from planets, galactic dark matter, interstellar life, and a clear counter-example to dark energy, and supporting HGD cosmology. The central binary white dwarf is surrounded by evaporating dark matter planets that may or may not dim the carbon star supernova event when the white dwarf over eats planets. Dark energy is thus a systematic dimming error.

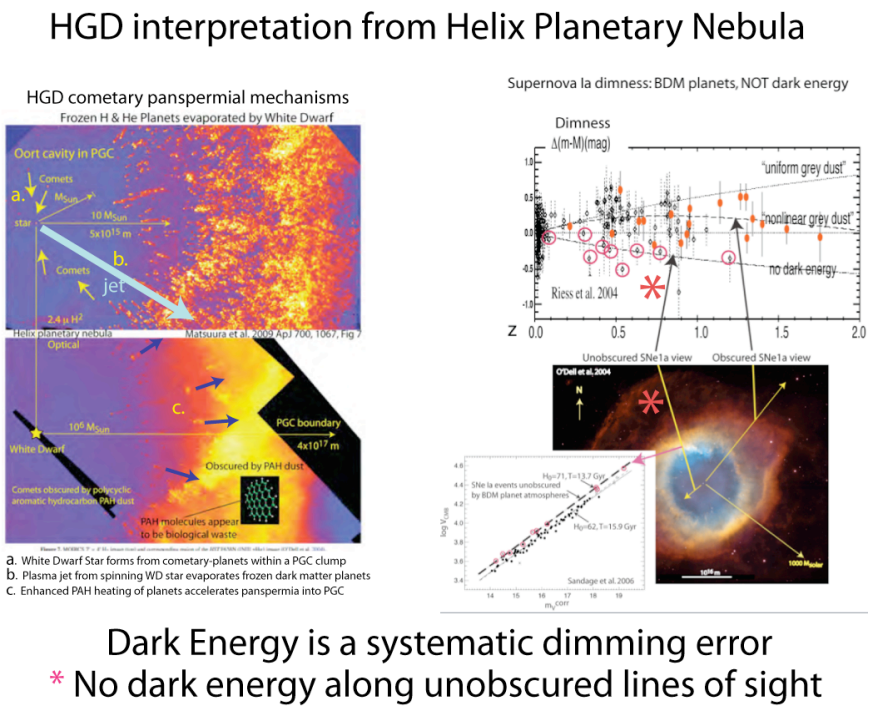

Figure 5. Helix planetary nebula and the dark energy hypothesis.

In Fig. 5, a binary white dwarf star is at the center of Helix, which partially evaporates Oort cavity planets by a powerful plasma jet. An Oort cavity has just enough planets to make two or three stars, about $M = 10^{31}$ kg. Since the planet density in a PGC is $\rho_0 \sim 10^{-17}$ kg m^{-3}, the size of all Oort cavities is always $\sim (M/\rho_0)^{1/3} \sim 10^{16}$ m, and this is always observed. Optical images (bottom left and right) are obscured by PAH dust formed when planets with life are fried by the jet (blue arrow). An infrared image from Spitzer space telescope (upper left) reveals

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thousands of PFP planets of our Earth-PGC, partially evaporated by the jet. Proto-comets of cometary panspermia can be seen moving toward the star, feeding it to the unstable supernova Ia mass limit of 1.44 solar. If the supernova line of sight is undimmed by refraction at the cavity boundary (asterisks, top right) then no dark energy is indicated. Thus, dark energy is a systematic dimming error. Most of the cometary planets entering the Oort cavity will be growing binary planets, whose growth has been triggered by radiation from the star (blue arrow). Pluto-Charon appears to be a typical example of the cores of a binary-planet comet, retaining the organic evidence of life formation (PAH, methane, CO, N) and some of the life forms fostered by the trillion Mother planets of the PGC. Figure 6 shows the preliminary view of Charon, just released by NASA, with promises of more to come.

Figure 6 shows that Charon also has huge water ice mountains in slush seas of methane. The shadow of such a mountain is resolved in the close-up image on the right.

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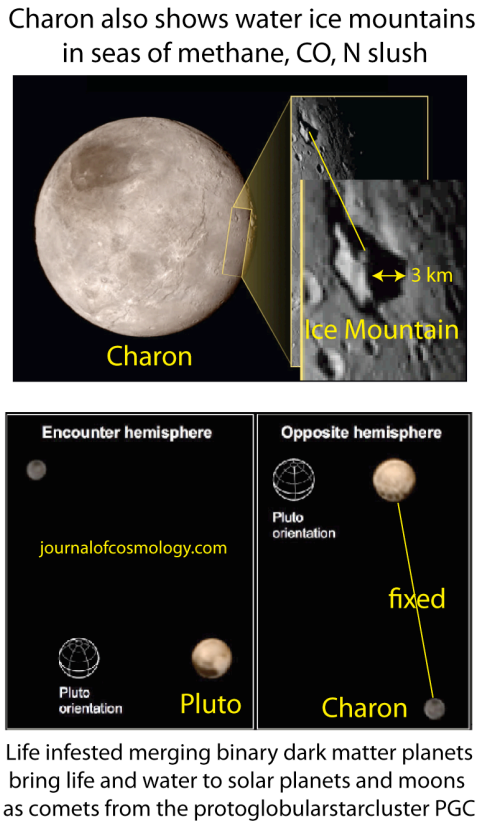

Figure 6. Charon is loaded with water ice and organic gases that show its history.

The huge ice mountain in the upper panel of Fig. 6 shows the history of the original hydrogen planet that reduced the supernovae oxides to water, condensed the stainless steel vapor and olivine vapor to form the planet core and the condrules of Fig. 1, and eventually the life forms and life gases of the life infested Pluto-Charon comet, contrary to astrobiology roadmaps promulgated by NASA[5] (Gibson 2015)[9]. The lower panel shows that the two planets are in 6 day synchronous orbit, with Charon fixed and facing one of the several dark spots on the equator of Pluto that apparently represent previous tectonic events. Figure 7 shows a detail of the heart shaped region of life infested methane slush.

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Slush oceans of methane, nitrogen, CO, etc. are signs of life on Pluto

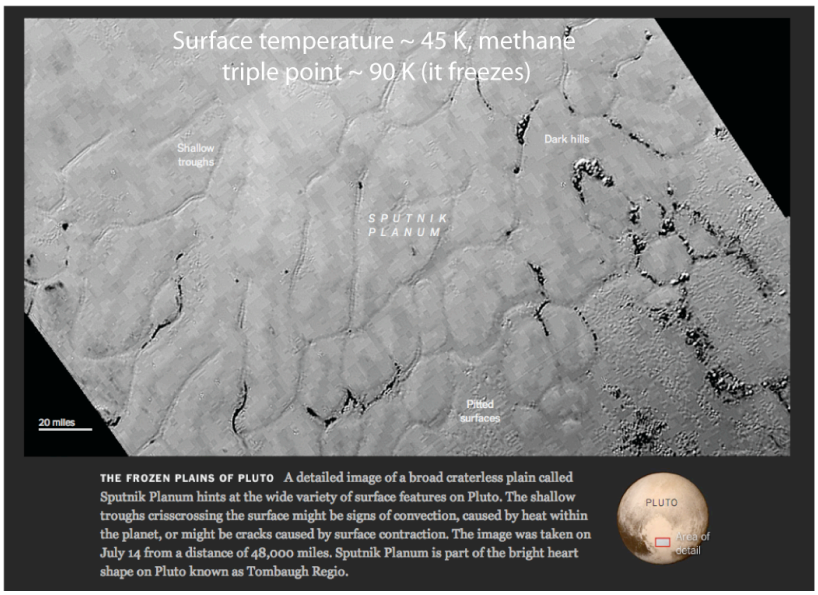

Figure 7. Closeup picture of one of the Pluto slush oceans of methane.

4. CONCLUSIONS

As shown by the Pluto-Charon images from the New Horizons spacecraft flyby in Figs. 3, 6, and 7 we have clear evidence of the role of such planets in the formation of stars, shown in Figs. 2 and 5, and in the formation and distribution of water oceans and life by cometary panspermia. Fig. 1 proves that the planets formed very hot and very early, and in the enormous numbers needed to produce and spread life on cosmic scales. All of the baryonic plasma converted to planets in clumps at the plasma to gas transition at 10^{13} s (300 Kyr, not after > 300 Myr of starless dark ages required by ΛCDMHC cosmology). These dark matter planets hosted the formation of DNA-RNA life using information and water spread in a cosmic soup of planets like Pluto-Charon extending throughout the universe, as shown in Fig. 4. The NASA roadmap to Astrobiology[5] and the standard model

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for life formation[6] are deeply flawed. Dark energy cold-dark-matter hierarchically-clustering cosmology ΛCDMHC cannot explain, and cannot even permit, the existence of life, and must be abandoned.

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