Phoenix Galaxy stars explode stellar evolution theory

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The popular magazine *Astronomy*[1] recently reported that young stars have been found in the nearby Phoenix dwarf galaxy. Galaxies are regarded as large assemblies of stars containing millions, even billions of stars along with dust and gas held together by gravity. Galaxies tend to be clustered together in groups. The Milky Way galaxy is part of the Local Group that contains about 30 galaxies. As D.L. Moche explains:

> *'Local means that the galaxies are within a region 3 million light-years across. Three of these galaxies — our Milky Way, Andromeda (M31), and M33 in Triangulum — are spirals. The others are ellipticals (including M31's bright companions NGC 205 and M32) or irregulars (including the Magellanic Clouds). Several are dwarf galaxies, small, low-mass galaxies a few thousand light-years in diameter.'* [2]

The Phoenix dwarf galaxy lies about 1.3 million light years (400,000 parsecs)[3] from Earth and is part of the Local Group of galaxies. Within the central region of the Phoenix galaxy, blue Population I[4] stars have been observed. Astronomers believe that the light of Population I stars is blue and intense because the stars are very hot. According to stellar evolutionary theory, Population I stars are young. Also, a sphere of red Population II stars surrounds the central region of the Phoenix galaxy. Population II stars are generally red and thus considered to have cooler surface temperatures. According to stellar evolutionary theory, Population II stars are old.

How do astronomers determine the age of a star? There is no direct method. The age is worked out based on assumptions about what stars are, how they form, and how they change over millions of years. We need to realise that these assumptions have very limited testability. No one was present to observe the stars form in the past, and no stars have been observed to form in the present. (Evolutionists claim to find evidence of ongoing star formation in various gas nebulae but none have been actually imaged, and the glowing could be heated, compressed gas.)[5] Furthermore, there has not been enough time to observe any of the evolutionary changes postulated by stellar evolutionary theory.

Nevertheless, starting from a theoretical sequence of how they envisage stars have evolved over millions of years, astronomers interpret the age of a star from its colour and brightness (or magnitude). These are plotted on the standard astronomy tool used to classify stellar populations, the Hertzsprung-Russell or H-R diagram (simply a plot of brightness vs colour). Most stars plot together forming a curved line termed the 'main sequence'.[6]

For example, astronomers assume that all main sequence stars with a mass equal or greater than 0.08 of the sun's mass, derive all their energy by 'burning' hydrogen by nuclear fusion. Main sequences stars with greater than 1.2 solar masses are assumed to 'burn' hydrogen via the carbon, nitrogen, and oxygen (CNO) cycle. These assumptions are difficult to test. From these assumptions, astronomers working on the Phoenix project have concluded that the Population I stars are much younger stars:

> *'We present new deep VI ground-based photometry of the Local Group dwarf galaxy Phoenix. Our results confirm that this galaxy is mainly dominated by red stars, with some blue plume stars indicating recent (100 Myr old) star formation in the central part of the galaxy.… These results were then used to obtain the color-magnitude diagrams for three different regions of Phoenix in order to study the variation of the properties of its stellar Population.'* [7]

This discovery of young Population I stars in the dwarf Phoenix galaxy has astonished astronomers because it does not fit the current ideas of galaxy formation:

> *'Finding such youthful (100-million-year-old) stars is surprising because dwarf galaxies are thought by many cosmologists to have assembled billions of years ago, before the epoch of giant-galaxy formation. The Phoenix dwarf's young stars, observed with the 100-inch du Pont Telescope at Las Campanas Observatory in Chile, are distributed asymmetrically in the galaxy's central region, indicating that a recent wave of star formation swept that region.'* [1]

The claim that a recent wave of star formation occurred is special pleading when contradictory data for stellar evolution theory is uncovered. In fact some H-R diagram data for the Phoenix indicate stars with intermediate ages ranging from 3 to 10 billion years, so the young Population I stars stand out sharply.[8]

A good example of such special pleading is quasars with large red shifts ($z > 3.0$) that exhibit carbon monoxide and iron in their spectra. Here a similar argument is used as in the case of Phoenix. Evolutionists invoke a past generation of star formation and death in the quasar host galaxies to explain the presence of carbon monoxide and iron. Evolutionists know that if they admit the carbon monoxide or iron is primordial, 'big bang' nucleosynthesis has real trouble. Where does this type of reasoning stop? What would falsify the concept? So long as evolutionists can invoke a past, unseen wave of star formation, stellar evolution theory will remain intact without any holes showing up.

A case in point is Quasar BR 1202-0725 in Virgo with a red shift (z) of 4.69 has been found to contain carbon monoxide. A z of 4.69 in 'big bang' cosmology, indicates that the object is at an immense distance from Earth (billions and billions of light years). It is considered to have formed shortly after the 'big bang'.

As the report states:

> *'Because no chemical elements*

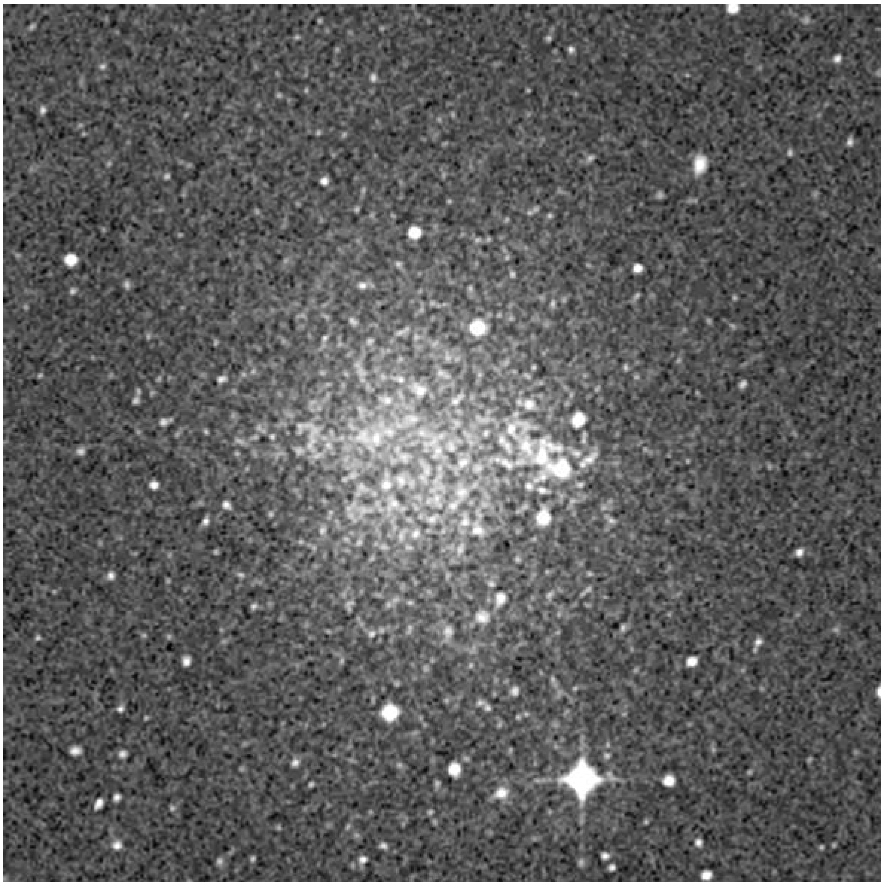

Photo by NASA

The Phoenix dwarf galaxy lies about 1.3 million light years (400,000 parsecs)[3] from Earth and is part of the Local Group of galaxies.

> *heavier than lithium were produced during the Big Bang's nuclear-fusion phase, their presence in a distant object shows that at least one generation of stars must have lived and died there. ... While the universe's exact age at that epoch depends on still-uncertain parameters, it's safe to say that the telltale radiation was emitted less than two billion years after the Big Bang.'*[9]

The issue is the presence of the *'one generation of stars'* that *'lived and died there'*. Evolutionists invoke a past, unseen wave of star formation to rescue stellar evolution theory and 'big bang' nucleosynthesis realising that the existence of elements other than hydrogen and helium and lithium in the early universe contradicts 'big bang' cosmology. A young Earth creation cosmology can interpret this observation as indicating that something more than hydrogen, helium and lithium were present in the early universe, shortly after its origin.

An appeal to a wave of unobserved star formation in the Phoenix dwarf also encounters the question, where did the Phoenix obtain the additional gas clouds needed to create these young Population I stars?

> *'The young population located in the central component of Phoenix shows a clear asymmetry in its distribution, with the younger blue plume stars predominantly located in the western half of the central component and the older core helium-burning stars predominantly situated in the east. This spatial variation could indicate a propagation of star formation across the central component. The H I cloud found at ~6′ southwest by Young & Lo could have been involved in this process.'*[7]

The key words are '*could have been involved.'* Such explanations should be recognised as story telling, because astronomers don't know for sure.

An alternative explanation should be obvious, namely that the Phoenix dwarf is not billions of years old but is much younger. Occam's Razor favours the simple answer: Population I and II stars formed at about the same time.

Genesis 1:14–19 and Genesis 1:31–2:3 provide a framework that can be applied to interpret the Phoenix data. Creationists could conclude that Population I and II stars are the same age, both being created on Day 4 of Creation week. This has significant implications for how the astronomical data are interpreted and for stellar evolution theory.

At the present there is no consensus among young Earth creationists on this point. I prefers Occam's Razor. When applied to Population I stars like spectral class OB stars (the largest masses on the main sequence), these would all be 1st generation. Evolutionists would claim that since the 'big bang', there have been thousands of generations of OB stars.

> *'On the other end of the scale, the main-sequence lifetime of the most massive stars (those with more than 11 solar masses) is 10,000,000 years or less. As a result, thousands of generations of those heavy weights have come and gone since the Big Bang. Note that when we say these stars have 'come and gone,' usually that means only that they have been transformed into a 'dead' remnant that no longer feeds on nuclear energy.'*[10]

Evolutionists interpret the observation of young Population I stars in the Phoneix dwarf galaxy through this framework. It should be noted that testing such claims appears to fall outside the realm of current, empirical science.

In the Phoenix data for Population I stars, we see evidence in the Local Group for an abrupt-origin model. The existence of young stars contradicts the 'big bang' cosmology, namely the assumption of evolutionists that these small dwarf galaxies formed billions of years ago, perhaps only 1 or 2 billion years after the postulated 'big bang'. The finding points to the Local Group dwarf galaxies being young, and not billions of years old.

References

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3. In astronomy, distances are popularly expressed in light-years (LY) — the distance that light would travel through a vacuum in one year (9.46 x 10^{12} km). However, astronomers more frequently use the parsec, which is equivalent to 3.262 LY. One parsec is the distance that would be subtended by an angle of one arcsec (1/3600 of a degree) across a distance of one astronomical unit. (One AU is the average distance between the earth and sun).
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Does a 'transitional form' replace one gap with two gaps?

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At times, creationists are ridiculed for pointing to gaps in the fossil record, because, it is alleged, the finding of a 'transitional form' means that one can now argue that there are *two* gaps whereas before there had been one. To begin with, this argument is very disingenuous, if only because it tells us nothing about the degree of *morphological* discontinuity remaining if two smaller gaps do in fact replace one larger one.

Consider if, as an extreme example, the only organisms in existence were yeasts, earthworms, and humans. From the standpoint of ancestor-descendant relationships, evolutionists could state that the last common ancestor of earthworms and humans was more recent than the last common ancestor between Kingdom Animalia and yeasts (Kingdom Fungi). While it is obvious that, in a sense, earthworms do 'bridge the (one) gap' between yeasts and humans, the fact nevertheless remains that the two gaps which now exist (between yeasts and earthworms, on the one hand, and between earthworms and humans, on the other) nevertheless are very large. So, while it is technically correct that there are now two smaller gaps instead of one large gap, this has little practical meaning because of the huge discontinuities remaining between the three forms of life.

The same holds for cladistic relationships. Nowadays, evolutionists deal with cladograms (branching diagrams which are supposed to show relative degree of relatedness among living things) rather than ancestor-descendant relationships. On a cladogram for the example above, the yeasts would branch off at a node before the one where the earthworms branch off from humans. But this branching pattern would tell us little. In fact, as before, it would only obscure the huge morphological discontinuity which exists between yeasts, earthworms, and humans.

Although I intentionally made the example above extreme in order to make the point, the same considerations apply to more conventional depictions of alleged evolutionary transitional forms. In particular, as long as such things as half-legs/half-wings, or three-quarter scales/one-quarter feathers, are not found as fossils, the discontinuities among such things as reptiles and birds remain large. This remains the case whether or not some 'transitional' fossil can be thought of as replacing one larger gap into two smaller but nevertheless still large gaps.

Finally, let us examine the one-gap, two-gap premise in the light of cladogram construction. Can this one-gap, two-gap argument be levelled *only* against creationists? Certainly not. Consider what happens when allegedly transitional forms are found:

> *'It might be expected that the addition of new fossil finds and reanalysis of older ones would improve the fit of age data to a fixed sample of cladograms, by the filling of gaps and by corrections of former taxonomic assignments. ... In other words, as a result of 26 years of work, new discoveries and reassignments had improved the fit in 20 % of cases, but caused mismatches of clade and age data in a further 20 % of cases. Sometimes a new fossil does not fill a gap, but creates additional gaps on other branches of a cladogram [Emphasis added].'*[1]

Clearly, then, to the extent that the 'two gaps whereas before there was one' has validity, it is a double-edged sword. It impacts evolutionary thinking no less so than creationist thinking. As a result, if they want to be intellectually honest, evolutionists should realize that they cut themselves with the double-edged sword everytime they level the 'two gaps whereas before there was one' argument against creationist scholars.

Of course, it must also be remembered that the very cladistic methodology currently in vogue among evolutionists tends, by its very