

Disclosure

of things evolutionists don't want you to know

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BEDBUGS IN BED

Some scientists think the sex lives of bedbugs help explain evolution; but it just derails an otherwise useful study.

Bedbugs have been in the news lately because there has been a bedbug epidemic in recent months. One article caught our attention because it describes a study about the relationship between sex and aging in bedbugs. In particular, the scientists were attempting to discover if having lots of sex keeps bedbugs young and, if so, how. This has practical application because, if there is a correlation, one might be able to determine exactly why this is. This could lead to the discovery of an enjoyable way to keep people younger longer!

DERAILED BY EVOLUTION

Unfortunately, this useful scientific study got derailed by evolution. The scientists became distracted by the evolutionary conflict they discovered. Here is the abstract describing the study.

Increased female reproductive rates usually result in accelerated senescence [aging]. This correlation provides a link between the evolutionary conflict of the sexes and aging when ejaculate components elevate female reproductive rates at the cost of future reproduction. It is not clear whether this female cost is manifest as shorter lifespan or an earlier onset or a steeper rate of reproductive senescence. It also is unclear whether beneficial ejaculates release females from reproductive trade-offs and, if so, which senescence parameters are affected. We examined these issues in the bedbug, *Cimex lectularius*, a long-lived insect that shows reduced female lifespan as well as female reproductive senescence at the male-determined mating frequency. We demonstrate experimentally that, independently of the mating frequency, females receiving

more ejaculate show increased reproductive rates and enter reproductive senescence later than females receiving less ejaculate. The rate of reproductive senescence did not differ between treatments, and reproductive rates did not predict mortality. The ejaculate effects were consistent in inter- and intra-population crosses, suggesting they have not evolved recently and are not caused by inbreeding. Our results suggest that ejaculate components compensate for the costs of elevated female reproductive rates in bedbugs by delaying the onset of reproductive senescence. Ejaculate components that are beneficial to polyandrous females could have arisen because male traits that protect the ejaculate have positive pleiotropic effects and/or because female counteradaptations to antagonistic male traits exceed the neutralization of those traits. That males influence female reproductive senescence has important consequences for trade-offs between reproduction and longevity and for studies of somatic senescence.¹

The abstract is very confusing, and not just because of the terminology! ☺ The first sentence says that having lots of babies makes a female get old faster. So, having lots of sex would seem to be a bad thing. But then, in the middle of the abstract it says, "females receiving more ejaculate show increased reproductive rates and enter reproductive senescence later than females receiving less ejaculate." This seems to imply that females who have better sex (quantitatively) have more babies for a longer period of time,

¹ Reinhardt, *et al.*, *PNAS*, December 22, 2009, "Ejaculate components delay reproductive senescence while elevating female reproductive rate in an insect", pages 21743-7

entering menopause later in life. So, having a potent sex partner seems to be a good thing. You have to actually read the article to find out what they are really saying.

Sadly, the scientists don't seem to care about discovering if having sex makes you old or keeps you young. Instead, their obsession with the evolutionary paradigm distracts scientists from figuring out how to learn anything practical from it.

THE COST OF SEX

Evolutionary scientists think in terms of "the cost of sex" because the evolution of sexual reproduction makes no logical sense. So, let's look at a few key sentences and explain the paradox that inspires them.

In polyandrous species, the male optimum for an interacting phenotype is likely to be different from the female's, potentially resulting in an "evolutionary conflict between the individuals of the two sexes" (sexual conflict).²

In other words, contrary to the old proverb, what's good for the goose ISN'T good for the gander. ☺ It their words,

During reproduction many interacting phenotypes occur, and sexual conflict may arise from any of these interactions, e.g. the timing or duration of mating, the re-mating rate, the female egg-laying rate, and/or offspring performance. Whenever an interacting phenotype results in net mating costs to one sex, the conflict can be resolved by trade-offs in resource allocations; these trade-offs, in turn, will disturb the existing equilibrium formed by the correlations between other interacting phenotypes. Thus, even if there are no current mating costs to females, there still may be a mosaic of coexisting interacting phenotypes that are, when measured in isolation, costly, neutral, or beneficial to one sex.³

This is just a complicated way of saying that males want females who will have sex with them every day, and don't care if they sleep around. Females want males who won't get them pregnant before they are ready, and will help them raise the child for a reasonable period of time before getting them pregnant again. If they have too many children, there is a good chance the mother will die in childbirth, or will die from malnutrition trying to suckle the young. If they have too many children, none of them will get enough food and all will die.

The theory of evolution is based on the notion

that individuals who produce a large number of offspring who are better suited for survival will predominate. So, there is an evolutionary conflict between males who want frequent sex and females who want sex only when they are ready to have more children. All species should have evolved to the point where they have the optimum amount of sex, producing the maximum number of offspring that they can raise; but they haven't. Evolutionists are searching for the answer to why natural selection didn't work out that way.

Here is another example of how the theory of evolution distracts scientists.

... several studies have found ejaculate components to be beneficial in several aspects of female reproduction, but it is not known whether such benefits evolved via sexual conflict (e.g., 4, 6, 22) or by traditional female choice. For example, females may have evolved the ability to metabolize manipulative ejaculate substances, or they may choose males that provide the largest direct benefits (e.g., nuptial gifts). In the former case, the metabolism of manipulative substances may be costly initially and so result in trade-offs in females; in the latter case, one would not necessarily expect trade-offs.⁴

Let's translate that into plain English. During sex, more than just sperm cells are transferred from the male to the female. The sperm cells are carried in a liquid that contains other chemicals (antioxidants, antibiotics, amino acids, etc.) as well. Several studies have found that these chemicals are beneficial to females.

... the ejaculates of *C. lectularius* have been found to contain antioxidant and antibacterial activity as well as essential amino acids. These substances all have potential fitness benefits for females.⁵

Candidate traits for the reduction of somatic damage and/or trade-off release are immune effectors, antioxidants, stress-defense substances, and micronutrients in the seminal fluid. Representatives of all 4 types of compound have been found among the >100 components in the semen of bedbugs.⁶

But rather than focusing on why these chemicals are beneficial, the scientists are distracted trying to figure out how the benefits evolved. Did they evolve through sexual conflict, or female choice (where that choice might be based on which males give them the best presents)? They even speculate that, by chance,

² *ibid.*

³ *ibid.*

⁴ *ibid.*

⁵ *ibid.*

⁶ *ibid.*

some females might have been lucky enough to have a mutation that can metabolize [use] those chemicals to their advantage.

We did not find the trade-offs predicted by life-history theory and evolutionary models of aging, because increased reproductive rates early in life did not result in earlier reproductive senescence. It is possible that ejaculate components either directly reduce aging damage in the female or release females from trade-offs.⁷

So, what is their conclusion?

In conclusion, our data show an important male effect on female fitness and aging patterns and demonstrate that beneficial male postcopulatory traits can evolve alongside harmful male traits.⁸

Despite the fact that males evolved the harmful desire to have too much sex, some beneficial traits must also have evolved to cancel out their selfish lust. Here is their fanciful explanation:

That male traits evolve which are beneficial to females may seem surprising in a species that has a high mating frequency that is controlled by males and has last-male sperm precedence: Any newly evolving beneficial ejaculate substance favors competing males that mate subsequently. We envisage 2 possible routes by which such beneficial male effects may have arisen. First, ejaculate traits originally may have had a negative effect on females, as is currently observed for some *Drosophila* proteins. Consequently, female traits, such as the ability to metabolize ejaculate substances, may be selected for in females. Although the evolution of such female counteradaptations currently is believed merely to neutralize male harm, it may have progressed in bedbugs to benefit females. Alternatively, it is possible that male-male competition does not always have negative side effects on females (pleiotropic sexual antagonism). Instead it may result in male traits that evolved to protect the ejaculate (ejaculate defense traits) having a positive pleiotropic effect on the female such as the antioxidant and the antibacterial activity found in bedbug ejaculates.⁹

They can't explain how this could have evolved because it didn't evolve. They are just trying to guess ways it could have evolved. To admit that it could not have evolved opens the door to the possibility that there is some design.

⁷ *ibid.*

⁸ *ibid.*

⁹ *ibid.*

MISSING ISOTOPE REACTIONS

We received several excellent emails reacting to last November's article on missing isotopes. This month we will address two of them.

The feature article in last November's newsletter examined the so-called "missing isotopes," and the implication drawn by some people concerning the age of the Earth. Rod was one of the people who questioned the validity of determining the age of the Earth from elements found (and missing) in stars.

Rod wrote:

Thanks so much for taking the time to write this article. It has helped me in my understanding of the issue as well as giving me further support for refutation of the assertion when it comes up in FaceBook discussions.

The assertion has been that they do see evidence of these various isotopes in stars and supernovas, based on gamma ray emissions, however I see no reason to conclude that the same elements present in stars must be present in planets. That is, they assume (in stellar evolution) that these elements were present when the earth formed, and then since they aren't present now they conclude stellar evolution is true and thus long ages is true. Assuming stellar evolution to support stellar evolution is the fallacy of begging the question.

I thought of one other issue related to the missing isotope assertion, and that is that radiometric dating assumes zero daughter elements present at the time of annealing, yet the missing isotope assertion assumes non-zero amounts of various other elements at the time of the earth forming. Since it appears to me the two assertions are opposite it reveals the arbitrariness of the two assertions. Is there something you can see that I am missing in this?

Rod has a valid point that measurements of the isotopes present in stars (whether they are correct or not) have nothing to do with the isotopes present on Earth, unless one makes some unverifiable assumptions about how and when the Earth and stars were formed. The same thing can be said for dating the Earth by dating moon rocks. It is as silly as trying to date the Mayan pyramids by dating the pyramids in Egypt. (One would have to assume all the pyramids were built by the same civilization.)

RADIOMETRIC DATING CLARIFICATIONS

Rod asked if he was missing something about

how radiometric dating works, and he was. This gives us an opportunity to set the record straight.

Not all radiometric methods assume the absence of daughter elements initially. In particular, the isochron method assumes a value determined by the Y-intercept of the plot.¹⁰ The other methods assume the various levels of isotopes in a previous newsletter.¹¹ Evolutionists assume these non-zero values because they (sometimes) give the "right" answers.

Potassium-argon dating does, as Rod says, assume no argon gas remains when the lava hardens. It turns out that not all the argon escapes from the hot lava, resulting in the notorious "excess argon" that makes modern lava flows appear to be millions of years old, so that's a bad assumption. We went through the calculations nearly 7 years ago showing how little initial argon it would take to make a modern lava flow appear to be millions of years old using the potassium-argon dating method. Here is the conclusion of that article.

Suppose you put one grain of black sand in a cement truck filled with white sand. That one grain of black sand would represent a little more than the typical amount of "excess argon" in modern lava flows. Furthermore, that one grain of sand is roughly equivalent to the amount of argon that would be produced by decay of potassium in 1.5 million years.¹²

Potassium decays into argon so slowly that just a few argon atoms trapped in the molten lava makes the lava appear old. Lava, when it comes out of a volcano, isn't pure enough to be dated by measuring the amount of argon in it.

ZIRCON DATING

Another form of radioactive dating that depends upon no initial daughter elements is zircon dating. David wrote an excellent email telling why evolutionists believe zircon dating is accurate.

Hello, I thought I would write and comment on the article on radioactive age dating. There are many things I can point to that are scientifically inaccurate about the article.

You brought a point about how the amount of uranium (U) and lead (Pb) are known [sic] when the rock formed. You said it can't be known [sic], but rather a guess has to be made. Well here's where the disconnect lies. When a geologist [sic] wants to do uranium-lead

dating the amount of U and Pb in the "rock" is not normally measured to determine the age of the rock. The amount in one single mineral crystal is measured, again not in the rock! You are correct to say the amount in the rock can not be known, and that's likely true, but the amount in a mineral can be known because when a mineral forms it doesn't form randomly with all the known elements in its structure, only a limited range of elements or very specific ratios of elements, and that's the key.

For example, table salt is sodium + chloride (NaCl), with almost nothing of anything else. Therefore you can say with almost absolute certainty that it formed with a 1:1 ratio (50-50% of Na and Cl). That's true for all Table salt (halite) on the planet. This formula has very little variation. If there was such a thing as Na-Cl dating (which there's not because Na doesn't decay to Cl) the ratio to start in the minerals would be 50% - 50%. It doesn't even matter what the ratio [sic] of the rock is, only the mineral!

So anyway with Uranium-lead dating it's [sic] the same. The minerals used are ones that incorporate Uranium when they form but DO NOT incorporate lead. They won't include lead because the lead atom is either not the correct size or its atomic charge (+ or -) is incorrect. When the mineral zircon forms it takes in uranium but not Lead, so geologists use zircon to determine the age of the zircon crystal, and then the age of the zircon crystal gives the age of the rock because it's part of the rock. Also, the mineral monazite uses rare earth elements, phosphate and oxygen when it forms. But since uranium is the right size and has the right atomic charge a little bit of uranium is also incorporated when monazite crystallizes into a solid mineral, but no lead is used. So for monazite, the other elements used during its formation (besides Uranium and lead) are disregarded because they mean nothing for determining the age of the monazite formation only the uranium and lead are of interest. So when monazite forms the ratio of uranium to lead is 100% to 0% and over time the uranium decays to lead at a constant rate. The resulting lead is trapped by the solid structure of the monazite crystal. Take it to a lab for analysis and they measure the uranium and lead ratio in that one single monazite crystal, again NOT THE ROCK!

David

David is very nearly right. Uranium doesn't decay at a constant rate—it decays at an exponential rate; but we know what he means. He means that uranium decays at a known rate, and he's right about that. Other than that minor slip of the tongue (and a few grammatical errors), he's right.

He is especially right when he says, "table salt is sodium + chloride (NaCl), with almost nothing of anything else." It's that "almost nothing" part that makes zircon dating unreliable.

Uranium decays to lead much slower than potassium decays to argon. Therefore, it takes even less initial lead to make zircon crystals appear to be older than they are.

¹⁰ Disclosure, May 2008, "Timeless Isochrons", <http://scienceagainstevolution.org/v12i8f.htm>

¹¹ Disclosure, May 2000, "Tim Thompson's Response", <http://scienceagainstevolution.org/v4i8e1.htm>

¹² Disclosure, May 2004, "Rock Formations", <http://www.scienceagainstevolution.org/v8i8f.htm>

FRACTIONAL CRYSTALLIZATION

The purity of zircon crystals depends upon a process called “fractional crystallization.” As rocks cool, minerals tend to separate because different minerals have different freezing points. If rocks cool slowly enough, the zircon crystals will harden at a different time than other minerals in the rock harden, effectively separating the uranium-containing zircon crystals from other minerals containing lead that might be in the molten rock. There’s a cute little experiment at the Northwestern University website showing how this works by partially freezing apple juice.¹³

Sulzer Chemtech uses fractional crystallization to purify crystals on an industrial scale. There is a sixteen page document on their website explaining how their process works. They say,

The phase diagrams clearly demonstrate that pure A and pure B crystals can in principle be obtained over a range of temperatures and concentrations as indicated by the corresponding freezing point curves. It is further evident that any mother liquor, coexisting with any species being crystallized, must be less pure than the crystals themselves. In such cases, the crystalline phase is covered by impure mother liquor which should be removed in order to secure purity. For this reason the removal of residual mother liquor in order to secure a pure product is an important operation both in large scale plants and in the laboratory.¹⁴

Scientists have great ideas. Engineers put those great ideas into practice. In the process, engineers learn that things are easier said than done. The devil is in the details. Scientists often overlook some small, but very important, fact that isn’t discovered until an engineer tries to use the idea for a practical purpose.

Fractional crystallization sounds so simple on paper. But when Sulzer Chemtech tried to use the process to purify chemicals, they discovered it wasn’t so simple after all. You can’t just slowly cool a mixture of melted minerals and expect them to separate into perfectly pure crystals. The document on their website describes the different processes they use for fractional crystallization, and recommend “Static Crystallization – for medium to high product purities” and “Falling Film Crystallization – for medium to very high product purities.” The important point to realize is that even under carefully controlled laboratory

conditions, they can only get “very high product purities.”

When crystals form in nature, the “impure mother liquor” isn’t drawn off “in order to secure purity.” That’s why, as David correctly points out, unprocessed salt crystals are made of sodium chloride and “almost nothing of anything else.” Naturally occurring crystals are naturally impure. In some cases, it is the impurity that makes the crystals beautiful.

On paper, zircon crystals don’t contain any lead at all, just as David wrote. But naturally-occurring crystals aren’t perfectly pure. They do contain some lead impurities. Since uranium decays to lead much more slowly than potassium decays to argon, the naturally occurring lead in zircon crystals is a more serious problem than the naturally occurring argon in lava.

GEODES

Geodes are Iowa’s state rock. They are generally (but not perfectly) round, generally (but not always) hollow, usually (but not always) with crystals inside. When I went to school, I was taught that geodes were a perfect example of fractional crystallization. The different concentric rings of differently colored minerals, and the crystals inside, were thought to have formed at different times as the rock cooled.

When researching this article, I discovered the origin of geodes is now disputed. Apparently the most obvious example of natural fractional crystallization isn’t quite so obvious anymore. According to the Iowa Department of Natural Resources, geologists now believe that some further modification is necessary after the fractional crystallization to complete the process.

The origins of geodes have vexed geologists for a considerable time, and many hypotheses have been put forward. The most recent geologic research, however, agrees on three general points: 1) Geode precursors were concretions (nodules formed by outward growth around some nucleus) which grew within soft, unlithified sediment. 2) The outer shells of these concretions were replaced subsequently by chalcedony. 3) The interiors of the concretions were dissolved, leaving a hollow space into which quartz crystals could grow. The composition of the original concretions is unclear, though geologists propose they were either limestone or anhydrite, a fairly soluble calcium sulfate mineral related to gypsum.

The minerals now seen inside geodes were transported in groundwater solutions and then precipitated as replacements of the geode walls or as crystalline growths within their hollow

¹³ <http://www.earth.northwestern.edu/people/seth/demos/FRAC/frac.html>

¹⁴ http://www.sulzerchemtech.com/portaldata/11/Resources//Brochures/PT/Fractional_Crystallization-e.pdf

interiors. The ultimate source of the mineralizing waters remains speculative. Many common geode mineral[s], especially quartz, are only weakly soluble. Therefore, substantial volumes of water had to migrate through the lower Warsaw strata to precipitate the observed minerals.¹⁵

This explanation depends upon the observation that rocks undergo changes after they are formed. Specifically, groundwater adds or removes minerals. This makes it impossible to know what minerals were in the rocks when they formed.

We used to think we knew how geodes formed. Apparently geologists aren't certain anymore. If nobody knows how geodes formed, can we be sure we know how zircons formed?

"The most recent geologic research" indicates that the crystals in geodes were formed (at least in part) by precipitation rather than solidification. Although these two processes produce similar results, they do it differently.

SCIENCE FAIR PROJECTS

Earlier in this article we referred to a simple experiment in which orange juice was partially frozen to demonstrate how different freezing points cause crystals to form. That experiment depended on changing temperature. Let's try a different experiment at constant temperature to demonstrate precipitation.

Dissolve a few teaspoons of sugar in a clear plastic cup of water. Let that cup of water sit on a table for a week or so. As the water evaporates, the sugar solution becomes more concentrated. There comes a time when there isn't enough water to dissolve all the sugar, so the sugar starts to precipitate (that is, un-dissolve). Eventually all the water evaporates, leaving just some nice, big sugar crystals in the cup.

You can do the same thing with salt instead of sugar. Now, here's your science fair project. Try it with equal amounts of sugar and salt. How well separated are the crystals of sugar and salt? (Do they form nice, perfect layers; or are they mixed up?) Use a microscope to examine the crystals to see. (Salt crystals are square; sugar crystals are irregular.) What happens if you add a little bit of food coloring to the salt and sugar solution before it evaporates? Is the food coloring incorporated inside the crystals, or does it dry on their surfaces? Is the food coloring associated with one kind of crystal more than the other?

¹⁵ Brian J. Witzke, "Geodes: A Look at Iowa's State Rock", <http://www.igsb.uiowa.edu/browse/geodes/geodes.htm>

CONCLUSIONS

Rod's email really raised two different issues, which we dealt with separately. First, you can't tell what elements are found on Earth by looking at what elements are found on the moon, other planets, or stars—unless you make the unreasonable assumption that everything is made of the same mixture of things, in the same proportion, throughout the universe.

The second issue is that some radiometric dating techniques, potassium-argon dating of lava and uranium-lead dating of zircons, depend upon material that initially had no initial daughter material (argon or lead) to begin with. That just never happens in nature. Furthermore, these dating methods involve minute quantities of daughter material. Therefore, just an incredibly small initial amount of daughter material results in a very old, erroneous age.

Sidebar

SPECTRAL ANALYSIS

There are limits to what you can tell about something simply by looking at it.

The missing isotope argument depends upon more than just the notion that the isotopes on Earth should be the same as the isotopes in space. It also assumes that we really know what isotopes exist out in space.

Astronomers can't actually take samples of stars. All they can do is look at them. Astronomers measure the visible and invisible radiation coming from stars, then use a technique called "spectral analysis" to determine what elements or atomic reactions produced them.

MUSIC TO OUR EYES

Perhaps the best way to explain this is to use a musical analogy because harmonic analysis is fundamentally the same as spectral analysis.

Suppose I take you, blindfolded, into a concert hall. One of the musicians in the orchestra plays a single note. Then I ask you, "Did he play a violin, flute, or trumpet?" Most people would be able to tell, just by listening, which of the three instruments was played.

How can you tell instruments apart? You tell by listening to the harmonics. Musical instruments produce a primary frequency associated with a musical note, plus several other frequencies that are harmonically related to that note. Your ear detects these other harmonics, allowing you to identify the instrument.

Every element has the equivalent of visual

harmonics. If you heat up a bar of metal or a tube of gas, it will glow. It glows with a combination of different colors. Human eyes aren't as sensitive to light as human ears are to sound. You can't see infrared colors, so you can't tell a bar of glowing lead from a bar or glowing iron—but scientific instruments can. They can see the spectral differences in light the same way you can hear spectral differences in sound.

Let's go back to the concert hall. This time, two musicians play at once. Your ear is probably good enough to tell which two instruments are playing. In the same way, if a steel bar is heated, the scientific instrument can tell that both iron and carbon are present, and can tell how much carbon has been added to the iron to make the steel.

As long as the instruments are sufficiently different, it is easy to tell them apart. It gets more difficult to tell a violin from a viola, especially if other instruments are playing at the same time. Professional string players certainly can distinguish the two, but people who don't have any musical background might find it difficult.

In the same way, the more sources of light there are, the more difficult it will be to separate them. Can spectral analysis really distinguish between nearly identical isotopes in the presence of lots of other elements from a distance of many light years?

The Apollo astronauts brought back samples of moon rocks which were analyzed using atomic mass spectrometers. In essence, the moon rocks were ground up into fine powder and separated by weight. Would it not have been much cheaper to do a spectral analysis of moonlight to find out what the Moon is made of? Yes it would; but it would not have worked. If it could have worked, they would have done it and saved a lot of money.

Furthermore, bringing back samples only told us what the surface of the Moon is made of—it didn't tell us what the interior of the Moon is made of. One certainly can't tell the composition of the Moon just by looking at it, no matter how good the instruments are.

Cosmologists would have us believe that they know (precisely) the composition of stars just by looking at them. We don't know what the Moon is made of just by looking at it. We can't even tell where all the gold is on Earth from satellite photography—that's why prospectors still have to dig looking for it. Cosmologists claim to know what stars are made of just by analyzing the radiation coming from space, but there's no way to verify their conclusions. Nobody has ever brought back samples from distant stars.

Of course, our simple musical analysis is naïve. If we all just knew as much as they knew,

we would understand that they really can distinguish between two lead atoms that weigh almost the same at astronomical distances. Their instruments are so much better than our ears, that to make such a simple-minded comparison is ridiculous. So, when they tell us the ratio of isotopes in distant stars, we should just take their word for it without questioning them. To be skeptical is to be irrational and unscientific! (We are being sarcastic, in case you couldn't tell.)

Seriously, cosmology isn't rocket science. In rocket science, an engineer actually builds a rocket. If it flies, the rocket scientist was right. If he was wrong, the rocket won't reach orbit. When a cosmologist tells us how much of a particular isotope of lead there is in a particular star, there's no way to tell if he is right or not. A computer model might say he's right; but how do you know the computer model is right? Have you ever known a computer to be wrong? ☺ (Oops! There's that sarcasm again!)

FEAR OF THE TRUTH

Social pressure can cause people to be afraid to say things they know are true. Last month, someone in Tucson tried to assassinate a U.S. Congresswoman, killing several innocent bystanders in the process. The killer was wrestled to the ground and disarmed at the scene; but the news media had to feign doubt as to whether or not he actually did it, calling him "the suspect" or "alleged gunman." It is politically incorrect to tell the truth about criminals. Scientists are similarly pressured to say that the theory of evolution is unquestionably true, despite all the obvious evidence against it, even if they know in their hearts it is false.

Sadly, scientists have abandoned the scientific method and replaced it with consensus. Consensus can be influenced by political expedience—honest experiments can't. Consensus isn't as reliable as experimentally obtained knowledge; but the scientific elites demand consensus be given the same respect.

There may be consensus about what isotopes exist in space, but consensus is nothing more than majority opinion. It can't be verified, and may not be true.

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You are also permitted (even encouraged) to send a donation of \$15/year to Science Against Evolution, P.O. Box 923, Ridgecrest, CA 93556-0923, to help us in our work. ☺

by Lothar Janetzko

BIOLOGY TEACHERS RELUCTANT TO ENDORSE EVOLUTION

<http://www.sciencedaily.com/releases/2011/01/110127141657.htm>

Defeating Creationism in the Courtroom, But Not in the Classroom

This month's web site review looks at the reaction on the Internet to an article published in the 28 January, 2011, issue of *Science*, the self-proclaimed "World's Leading Journal of Original Scientific Research, Global News, and Commentary." It is interesting to note how quickly you will find responses to articles published in major magazines on the Internet.

The article being discussed is found in the *Education Forum of Science Magazine*, page 404, "Defeating Creationism in the Courtroom, But Not in the Classroom," by Berkman and Plutzer. Although the article is not available for free on the *Science* magazine website, responses can be found on numerous websites and blogs. Just enter the article title into a search engine and you will find multiple sites that comment on this article.

One response is found on the *ScienceDaily* web site. Here you will learn the details about the study that Michael Berkman and Eric Plutzer made regarding the teaching of evolution in high school biology classes. A report from the National Survey of High School Biology Teachers (based upon a representative sample of 926 public high school biology instructors) stated: 1) 28% "implement National Research Council recommendations calling for introduction of evidence that evolution occurred, and craft lesson plans with evolution as a unifying theme linking disparate topics in biology", 2) 13% of biology teachers "explicitly advocate creationism or intelligent design by spending at least one hour of class time presenting it in a positive light" and 3) the remaining teachers, called the "cautious 60 percent," are neither strong advocates for evolutionary biology nor explicit endorsers of nonscientific alternatives.

Because so many teachers don't teach evolution "properly," the researchers recommend a mandatory undergraduate course in evolutionary biology for prospective teachers and frequent refresher courses for current teachers. This, they think, will solve the "problem."

Disclosure

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