Evidence News 11/13 – 3rd July 2013

WELCOME to busy bee orientation and how they are born that way, PLUS why cicadas act in symphony as we check out an hilarious church double standards clash while moth mothers succeed at hovering and leaf hoppers can't break a leg even when they try, so how do they do it? And one last thing …don't miss the Biology Profs answer to how evolutionists are making their theory succeed despite having its fatal flaws exposed! All this and more in this week's Evidence News 11/13 with EDitorial COMment from the whole Team with the Creation Guy John Mackay in Lexington Kentucky today helping Mike edit our new DVD on Dawkins and Darwin, atheism and evidence, creation and Christ.

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1. NEW QUESTION: How are evolutionists making their theory so popular with theologians and in churches at the same time creationists have successfully exposed its major errors? Answer by Biology Professor Gary Chiang.

2. THE FUNNY SIDE of church double standards click.

3. DID YOU MISS: LIFE SPANS? "Genesis says Methuselah lived 969 years. Were the long life spans in Genesis real years?" Answer.

4. SLIDE SHOW: Petrified Rose. Click.

5. HOW MOTHS HOVER, described in reports in BBC News 18 April 2013 and *Journal of Experimental Biology* (JEB) doi: 10.1242/jeb.087494. The study of insect flight often involves experiments using tethered insects in a flight arena. Scientists have noted that these tethered insects tend to make exaggerated movements of their abdomens. Jonathan Dyhr, a biologist at University of Washington, and colleagues Kristi Morgansen from Department of Aeronautics and Astronautics, University of Washington and Noah Cowan of Department of Mechanical Engineering, Johns Hopkins University, set out to see if the movements were simply a response to being tethered, or a means of controlling flight. To do this the research team placed a hawkmoth in a flight arena surrounded by a display of LED lights, which were used to create a moving pattern to give the moths the sensation of tumbling forward or backwards. They found the moth would bend its abdomen upwards or downwards as the direction of the pattern changed in order to stay in a steady position relative to the pattern. Using the data from high speed photography taken during the test flights the scientists constructed a computer model of the effect of the movements on flight control. According to JEB the model indicated: "First, flexing the abdomen shifts the moth's centre of mass to counteract the rotation. In addition, this causes the thorax to bend, re-directing the aerodynamic forces produced by the wings and so correcting the loss of stability. So, while the wings are still central to keeping insects aloft, it seems that the abdomen also plays a key role in flight control". Dyhr told BBC that moths were "incredibly good at hovering", and explained: "A moth can really precisely control movements (and remain) in one place, because it's trying to feed from flowers". The researchers are studying insect flight to "distil the biological principles of flight control". Dyhr told BBC news that it was really rewarding to answer this fundamental question. He went on to comment: "We got to collaborate with engineers and use really unique methods to answer very basic biological questions".
Link: BBC

ED. COM. Dyhr is right – moths are incredibly good at hovering, especially when you consider flowers do not stay completely still while the moths drink nectar from them. The fact that moths feed in this way reminds us they had to get hovering right in the first place, or they would not be able to get enough nutrients and energy to keep flying. This means the moth wings and body had to have the right structure, and the moth's brain had to have the right circuits to control them, as soon as moths tried to feed in this way. It is a good thing for biologists to collaborate with engineers to find answers to biological questions, because engineers know that functioning systems do not come about by chance random processes, and this is a lesson evolutionary biologists need to learn. Functions such as flying and hovering, require understanding of the laws of physics and properties of materials and the application of information to make use of these. In other words, they require a creator. No wonder the God of creation states bluntly that men have no excuse for ignoring His work. (Romans 1:20) (Ref. Lepidoptera, aerodynamics, flight, insects)

6. WHY LEAFHOPPERS DON'T 'BREAK A LEG', or tear leaves, according to ScienceNOW 13 March 2013 and *Journal of Experimental Biology* doi: 10.1242/jeb.085944. Jumping insects need to generate strong forces in their legs in order to overcome gravity, but the forces involved in rapid jumps could break their legs, or damage the leaf beneath them, or both. To avoid such disasters the insects need to maintain a constant acceleration, but muscles, being elastic, do not produce constant forces. A team of researchers in Italy used high speed photography to record leafhoppers taking off, and then analysed the movements of the insects' body and legs. They found that when energy was released from the contracted muscles in the insect's thorax it rotated the femur, (the leg segment closest to the body), and then transmitted the movement to the tibia, (the next leg segment), in a way that the variable muscular force was converted to a constant force. According to ScienceNOW, "This precision movement allows the insects to accelerate at a near constant rate of 152 meters per second squared while keeping their fragile limbs intact".

ED. COM. Here is another example of a function that could not evolve by naturalistic chance random evolution. It has to work first time, as there is no second chance to get it right if the insect breaks its legs. Insects with broken legs are not going to win in the struggle for existence. To explain how a non-hopping

insect became a hopping insect by evolving, you have to explain how genes for building correctly shaped legs, along with the brain circuits that control the movement, were put in place by an insect that was trying to jump while breaking its legs. Daahhh! It is far more reasonable to believe such insects were created with the right legs and the right brains all together, right from the beginning. Therefore, we predict that sooner or later fossil hoppers should be found with all parts present from the start of fossilisation processes on this planet (Noah's time that is). (Ref. biomechanics, insects, arthropods)

7. SECRET OF CICADA SOUND revealed, according to reports in ScienceDaily 30 May 2013 and ScienceNOW 4 June 2013. Anyone who lives in a region where cicadas emerge en masse in early summer knows what an ear-splitting din they can make. A team of U.S. Naval researchers has been investigating how such a small creature can make such a loud sound. Derke Hughes, a research engineer at the Naval Undersea Warfare Center in Newport, Rhode Island, and colleagues used microcomputed tomography to study the structure and movement of the cicada's sound producing organ, the tymbal. The tymbal consists of a thin membrane with thick sections called ribs. To make their sound, the cicada uses muscles to pull the membrane so the ribs are pulled inwards and buckle. This produces a sharp click. The muscles then relax, allowing the ribs to snap back, which produces another click. The cicada can repeat this action 300 to 400 times per second, producing the characteristic high pitched drone. Researchers suggest the volume of the sound is enhanced because the cicadas have two tymbals, and the sound waves from each can combine to produce higher wave peaks. According to ScienceNOW, "The cicadas may be artfully using this effect to pump their volume to deafening levels without expending as much energy as if a single tymbal had to do it alone". Cicadas produce sound to attract mates. Naval engineers think that cicada sounds may help them design devices that use little power, but can produce loud sounds, for sonar and underwater communication.
Link: ScienceDaily

ED. COM. Making loud sounds by using two tymbals may be an artful use of the physics of sound production, but the cicadas didn't think that up. Neither did they design noisemaking tymbals. If naval engineers are able to build a low powered but loud sound producing device using the same principles as the cicada tymbals it will be because they used their understanding of the physics of sound production and propagation, and can intelligently apply it using creative design. God's a genius … go on … admit it… He thought of all this first, as well as inventing all the laws of physics and that would make it possible. (Ref. sound engineering, insects, arthropods, acoustics)

8. BEE ORIENTATION GENE found, according to ScienceDaily 29 May 2013. Before bees go out foraging for nectar they need to be able to orient themselves in the landscape and to the sun, and recognise landmarks, including the appearance of the hive. To do this they go on orientation flights close to the hive. Claudia Lutz and Gene Robinson of University of Illinois Urbana-Champaign, USA investigated the changes in gene expression during orientation flight that might aid learning. They found that in just 30 minutes after an orientation flight a gene named *Egr* was specifically activated in part of the bee's brain known as 'mushroom bodies' – a region known to be involved in learning. This gene is a regulatory gene also known to be involved in learning and the detection of novelty in vertebrates. The gene activation occurred in bees that had not previously been out of the hive, and also in bees that had flown out before, but were placed in a new environment. This indicated the novel environment, not just the activity of flying was the stimulus for the gene being turned on. Researchers confirmed this by getting the bees to exercise, but not fly from the hive. They did this by warming the hive, which induces bees to stand near the entrance beating their wings to provide extra ventilation. This exercise did not activate the *Egr* gene. Gene Robinson commented: "This discovery gives us an important lead in figuring out how honey bees are able to navigate so well, with such a tiny brain". He went on to say: "And finding that it's *Egr*, with all that this gene is known to do in vertebrates, provides another demonstration that some of the molecular mechanisms underlying behavioural plasticity are deeply conserved in evolution".
Link: ScienceDaily

ED. COM. Watch out when the evolutionists use the word “conserved” when talking about genes. “Conserved” genes are often used as evidence for evolution. What they really mean is that they have found the same gene in different living things. However, finding the same gene in two very different types of living things, e.g. insects and vertebrates, simply proves both of them need it. It does not prove they were once the same living thing. To say a gene is “conserved” is to impose an already held belief in evolutionary theory onto a new discovery. Finding the same genes in different living things really reminds us that each kind of living thing is a unique combination of non-unique parts, and is good evidence that living things were created as separate kinds, just as Genesis tells us. (Ref. hymenoptera, insects, learning)

9. FROM THE ARCHIVES: Moths, Insect Legs, Cicadas, Bee Navigation.

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