Evidence News 19/12 – 1st August 2012

How much do we need each other? Can anything exist or evolve all by itself? The answer is one of the best evidences against evolution and for creation. That's what this Evidence News 19/12 – 1st August 2012 is all about as John Mackay takes some 80 folk on a field trip to the Adelaide Botanic Gardens today where we will study how we need plants and they need us, and bugs and birds and air and a solar system, etc, etc, etc. Enjoy the work below from the Creation Research Team worldwide with EDitorial COMment.

http://www.creationresearch.net
http://www.askjohnmackay.com
http://www.youtube.com/user/askjohnmackay#p/u
http://evidenceweb.net

ENews is available in 2 FORMATS – for EMAIL scroll down – for PDF see below index.

INDEX

For ENEWS as PDF CLICK
For ENEWS as email – just scroll down.

1. NEW QUESTION: "Kangaroos technically are unclean animals according to Leviticus as they have paws and not cloven hooves, don't chew cud etc. Therefore, would only 1 pair have gone onto Noah's Ark? Answer by John Mackay.

2. DON'T MISS JOHN MACKAY IN S.E QLD AND TENNESSEE SOON click for more information.

3. THE MOSSY SCENT OF SEX reported ScienceNOW 18 July 2012 and *Nature* doi:10.1038/nature11330. We are all familiar with flowering plants reproducing by producing pollen, which is transported by insects, birds and other creatures to the female parts of another plant in order to fertilise it and produce seeds. Unlike flowering plants, mosses reproduce by making sperm, which swim in water. When this was first discovered it was assumed the sperm simply swam at random to other moss plants when they were wet with rain. In 2006 biologists discovered that micro-arthropods, tiny

creatures such as mites, thrips and springtails, helped carry moss sperm from one plant to another, just as insects carry pollen for flowering plants. A group of biologists led by Sarah Eppley of Portland State University in Oregon has carried out further research into moss fertilisation and found another similarity with flowering plants. Just as flowers attract pollinators with fragrance, mosses emit scents that attract sperm-carrying bugs. The researchers tested this by placing springtails and mosses in separate chambers so the springtails could smell the moss, but not touch it. The springtails were strongly attracted to the source of the scent. The research team wrote: “Taken together, our results indicate the presence of a scent-based ‘plant–pollinator-like’ relationship that has evolved between two of Earth’s most ancient terrestrial lineages, mosses and microarthropods”. Robert Raguso, a chemical ecologist at Cornell University, and an expert on mosses commented: “This really shows that mosses and arthropods aren't just bumping into each other in the dark. ... They're all talking to each other”. The researchers have yet to work out which particular chemicals in the moss aroma are so attractive. Neither do they know what the arthropods are getting out of the relationship. Sarah Eppley commented: “There’s this much more complicated system than we knew, and that will expand ideas about how plants evolved”.

ED. COM. You do need to know that since springtails are normally attracted by rotting leaf litter, both we and the scientists suspect the moss aroma won’t be worth a scent for bottling. Our prediction: However while this research has definitely revealed that the relationship between mosses and micro-arthropods is more complex than “just bumping into each other in the dark”, it will not reveal anything about how mosses or arthropods may have evolved. Why not? To reveal anything about how mosses or arthropods may have evolved, you would need to discover how plants that were not mosses changed into moss plants with genes for the scent and sperm, as well as how animals that were not arthropods changed into micro-arthropods that could smell this newly evolved scent and be attracted to it, and somehow swap the smell for a free sperm ride to another moss. The relationship between mosses and micro-arthropods is similar to the flowering plant and pollinator relationship, but just as the presence of insects cannot create genes for flowers, the presence of springtails did not and does not make genes for the arthropod attracting scent in moss. In fact, research described above reveals a well-designed functioning relationship that mutually benefits mosses and micro-arthropods, and we predict that further research will confirm this and provide no evidence for evolution. (Ref. bryophytes, mutualism, fertilisation)

4. FLATFISH FOLLOW UP. Following our item on the fossil fish with asymmetrical eyes (read our report here) one of our readers wrote: “Interesting commentary on the Heteronectes ‘evolution’. However, since modern flatfish eyes DO migrate around the head, could this not be just another case of a fossil found in a mid-range developmental state? After all, flounders don't just wake up one day and boom! Their eyes have shifted to one side, do they?”

ED. COM. This is a good point. However, the researcher who first described the fossil in 2008 did answer this question. He gave the following three reasons for believing this was an adult form:
1. There is more than one specimen with this same configuration.
2. The head bones are fully ossified.
3. The specimens are all present day adult size. In living flat fishes, eye migration starts while they are still fairly small.

He also pointed out there are living fish that sit propped up on the sea floor, rather than lying flat, and asymmetrical eyes would be useful for a fish with this habit. Therefore, there is good reason for thinking this fossil is a fully functional adult form.

5. THREE WAY SYMBIOSIS ALL AT SEA reported in ScienceNOW 14 June 2012 and *Science* vol. 336 pp. 1432-1434 DOI: 10.1126/science.1219973. Seagrass meadows are important habitats for juvenile

fish and grazing marine mammals. Seagrasses are not seaweed. They have leaves and roots like grasses that grow on land, but they grow at the bottom of shallow seas. They are believed to have evolved from land grasses 100 million years ago, but "their ecological success, however, remains a mystery because natural organic matter accumulation within sea beds should result in toxic sediment sulphide levels". Tjisse van der Heide of University of Groningen, Netherlands, and colleagues noticed large numbers of bivalves, (molluscs with two shells) living amongst seagrasses and wondered if the bivalves were helping maintain the grasses, because bivalves have bacteria living in their gills that break down sulphides. They carried out of survey of 83 seagrass meadows around the world to discover if they also had such bivalves. They found bivalves living in 97 percent of the tropical seagrass meadows and 56 percent of temperate meadows. This fitted their theory that bivalves helped seagrasses thrive as sulphide levels are higher in tropic waters. The researchers then grew seagrasses in the laboratory and compared the health of the grasses at different levels of sulphides, with and without bivalves. The seagrasses with bivalves living amongst them grew almost twice as much as those without bivalves. Furthermore, bivalves were healthier and more robust when they lived amongst seagrasses. The researchers measured the sulphides and oxygen levels of their simulated environments and concluded the bivalves with the sulphide digesting bacteria were helping the seagrasses thrive, and the seagrasses were producing oxygen which helped the bivalves thrive. Thus the bacteria, bivalves and grasses form a three-way symbiosis.

Marine biologist Emmett Duffy of the Virginia Institute of Marine Science in Gloucester Point claimed this could be a form of co-evolution that explains how seagrasses evolved from land grasses. He suggested bivalves could have enabled land-based grasses to invade shallow oceans without being poisoned by sulphides and commented: "The benefit of the bacteria to the bivalves and the bivalves to the seagrasses provides a very plausible explanation for how both the seagrasses and the bivalves radiated evolutionarily and increased in range over a short time".

ED. COM. This is not the first three-way symbiotic relationship to be found, and we predict that it won't be the last to be discovered. The more research we do into the way plants, animals and microbes live together we find that symbiosis and mutual support are the norm and not the exception. However 3 way is a little understated. If you ask what conditions you need for such a system to function, it is so easy to miss the obvious. How about we add to the list: water a planet with the right temperature, just the right gravity, etc etc. Such effective three-way symbiosis between bacteria, bivalves and seagrass is exactly what you would expect to find given God created microbes, plants and animals in fully functioning ecosystems in real short time, i.e. a matter of days.

Also note that such research does provide a very plausible explanation as to why seagrasses and bivalves grow well together, but it does not explain how they evolved from other kinds of living things. (Ref. marine biology, shellfish, ecology)

6. MISSING MUSHROOM GENES reported in ScienceDaily 18 July 2012 and *PLoS ONE*, DOI: 10.1371/journal.pone.0039597. Some mushrooms live in symbiotic relationships with trees, each supplying essential nutrients to the other. Other mushrooms live separately on forest floors amongst the forest litter. Researchers at Harvard University and New York Botanical Gardens have studied the genetics of over 100 species of Amanita mushrooms in order to draw up an evolutionary tree of mushrooms. They found the symbiotic mushrooms lacked two genes for producing cellulases – enzymes that break down cellulose. This means they cannot live independently because they can't break down the forest litter to obtain food. The research team believe this is evolution by gene loss. They wrote: "Experiments confirm that symbiotic *Amanita* species have lost the ability to grow on complex organic matter and have therefore lost the capacity to live in forest soils without carbon supplied by a host plant.

Irreversible losses of decomposition pathways are likely to play key roles in the evolutionary stability of these ubiquitous mutualisms". Anne Pringle, an evolutionary biologist, one of the research team commented: "There had been earlier suggestions that this type of gene loss might be taking place, but our study is the first precise test of that hypothesis. The idea makes sense – if you're going to actively form a cooperative relationship with a tree, you probably shouldn't simultaneously be trying to break it apart and eat it. But it's a very tricky dance to form these kinds of tight, cooperative interactions, and I think this work shows there is a cost associated with that. You have to change, you have to commit, and it can become a sort of gilded cage – these mushrooms are very successful, but they're stuck where they are".
Link: ScienceDaily

ED. COM. The scientific observations are that those mushrooms that grow symbiotically with trees do not have cellulose breaking enzymes. At present there is no known evidence they ever had them in order to lose them. The evolutionary tree drawn up by the research team is therefore not evidence. It is an idea imposed on the evidence. Even if the mushrooms did once have the genes for the cellulose breaking enzymes but lost them, that would be change, but it would not be evolution. Losing genes is the opposite of evolution. This study is however a good reminder of how living things are designed to live together, rather than be in a perpetual "war of nature" as Darwin described it. Mushrooms that grow in association with the trees obviously do not need such enzymes because they are well suited to be part of an ordered and well working system, whilst mushrooms that do have them are just as well suited for living in places where they do need the cellulose enzymes and so they do have them. Again a reminder that there are plenty of theories and opinions that disagree with the Genesis record but the facts never do. (Ref. fungi, symbiosis)

7. FROM OUR ARCHIVES: Each week we publish links to previous items relevant to this issue's topics: Mosses and Springtails, Three Way Symbiosis, Sea Slug Symbiosis.
Remember also that all news items and quotes in Evidence News are archived as individual items in the Fact File on our Evidence website here. Make use of this resource.

8. DONATIONS: *Get involved in sharing the cost and the blessings of the research and teaching by becoming part of the worldwide support team today via our secure Web site: CLICK or send gifts to the following addresses.*

Donations in USA/UK are tax deductible. See instructions online.
AUSTRALIA: P.O. Box 260 Capalaba Qld 4157
CANADA: Westney Heights Baptist Church 1201 Ravenscroft Rd Ajax Ont. L1T 4K5
TAX DEDUCTIBLE SUPPORT FOR OUR COLLEAGUES click HERE.
NEW ZEALAND: P.O. Box 40480 Glenfield 0747, Auckland
UK: P.O. Box 1 Ashton under Lyne Lancs. OL6 9WW (Donations in UK payable to Creation Research Trust are tax deductible - a Gift Aid Declaration is required - available from http://www.amen.org.uk/cr/trust/
USA: P.O. Box 281 Hartsville TN 37074 (Donations in USA are tax deductible. Make checks to Creation Education Society)

IF YOU no longer wish to receive our updates please reply with REMOVE EN in the subject. To assist us please include your name as well as e-mail address (and organisation name, if any).