



# *Creation Matters*

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## *Violets' Design Provides Evidence of Creation*

*How Are Species Defined?  
The Testimony of O-rings  
Game Theory and the Golden Rule*



## ...without excuse!

by Timothy R. Stout

# THE TESTIMONY OF AN O-RING

**A**s a design engineer, I have designed o-rings into products. They are a pain. It is unbelievable how many things can go wrong with something so trivial in appearance. Problems that I have directly experienced include: 1) ruining a ring by pinching it during assembly; 2) having the rings' seating grooves too rough, too deep, too shallow, or too narrow; 3) not having available materials of proper composition which were suitable for the temperature and pressure requirements; and 4) not having available materials of suitable composition which can last for the required lifetime when exposed to the chemicals. It seems that o-rings and problems go together.

### Challenger

I am not the only one to face o-ring problems. In 1986 the space shuttle Challenger exploded during lift-off because of a leaky o-ring (Anonymous, n.d.). Seven lives and one billion dollars of equipment and were lost. The official NASA report on the Challenger accident concluded (Anonymous, 1986),

In view of the findings, the Commission concluded that the cause of the Challenger accident was the failure of the pressure seal in the aft field joint of the right Solid Rocket Booster. The failure was due to a faulty design unacceptably sensitive to a



*A 1983 lift-off of the shuttle Challenger.  
NASA photo.*

number of factors. These factors were the effects of temperature, physical dimensions, the character of materials, the effects of reusability, processing and the reaction of the joint to dynamic loading.

The lesson to be learned is that it did not matter how much of the space shuttle worked properly. The failure of a single pressure seal, seemingly of trivial significance compared to other features of the shuttle, was sufficient to destroy the entire shuttle and kill everyone aboard.

The Challenger situation provides a good parallel to the difficulties involved in a natural, step-by-step, evolutionary origin of life. It does not matter how much of an emerging cell might work properly. The issue is that the items that are completely lacking or are not working properly overshadow the items that might work. Many, many intricate systems need to work properly in a single step of progress for a rocket to orbit the earth. The same applies for a combination of chemicals to exhibit the qualities of a living system.

### Step-by-step modifications

The foundational concept of evolution is that a living cell can develop by starting with simple chemicals and then making small, step-by-step modifications until the final product is reached. This concept can be appealing intellectually and may make sense from a high-level overview. This is particularly true when one applies it to examples of evolution for which the actual details involved are unknown. It then becomes easy to trivialize and count as insignificant evolutionary scenarios which are unknown and not understood. The problems come when one begins to learn and understand the details.

Thus, Darwin thought the origin of life was not a big deal. A single cell was simple; it was merely a small, membrane-like bag filled with a jelly-like substance he called "protoplasm." No one could argue against

*... continued on p. 5*

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Cover photo:  
*Viola tricolor* L.

By Rebekah D. Wallace,  
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# Violets' Design Provides Evidence of Creation

by Stephen B. Austin

**W**alking along a woodland trail in the spring, one often misses the little violets, unless he or she has a keen eye and especially searches for them. Often they hide among the grasses and other vegetation beneath the trees, shrubs, and taller herbs. Yet, closer examination will yield an exclamation of the wonderful design in the individual flowers.

## Flowers

These plants are perennial herbs, and most species of violets produce two types of flowers: those blooming in the spring and early summer are showy, and "... if no seed is produced, the plant develops much smaller flowers in autumn."<sup>1</sup> These later flowers botanists often call cleistogamous flowers. More on this term later.

The showy flowers have five petals, five sepals, and five stamens. Botanists call this a five-merous flower; the petals are not alike, however. The lower petal possesses a spur or deep sac at its base. The two lower stamens are located at the base with nectar-bearing appendages which project into the spur or sac of the petal. Sanders described the violet flower in a most interesting manner: "The blossom . . . five petals: two upper, two lateral, and one bottom. The two pairs act as flags to attract pollinating insects while the bottom petals serve as a landing strip."<sup>2</sup>

## Seeds

Once pollinated, each flower commonly produces an abundance of seeds in what are called seedpods. These seed pods slowly dry until they eventually burst, catapulting the seeds up to four feet away. The petals have highlighted veins which direct the pollinating insect to the location of the pollen. This is a fascinating design feature that is seen in numerous plant species. Evolutionists contend that such designs have evolved separately in unrelated plant groups through what is theorized as "convergent evolution." However, there is no evidence for that in the fossil record. Instead, we see a stasis — plants remaining basically the same, except for minor adaptations and variations within the "Genesis kind."<sup>3</sup>

Violets often have a secondary method of producing seeds, especially if conditions prevent seeds from forming from the showy flowers, or if the seeds are carried away to other locations, where they may or may not

germinate. These plants thus produce a group of smaller flowers (cleistogamous) which remain closed and yet produce seeds. The term "cleistogamous" comes from the Greek word *kleistos*, which means closed. These self-pollinated flowers are not as suitable as the regular ones, because the seeds do not have the genetic variability evidenced in cross-pollinated flowers; however, they do insure that the species remains abundant in that area from year to year. Even so,

Not all violets produce these non-blooming flowers. Some summer violets, such as *Viola tricolor*, bear showy blossoms, can easily attract insects, and do not appear to need backup cleistogamous flowers.<sup>4</sup>

Violets can also spread in a third manner — via rhizomes (underground stems) or runners (above-ground stems) — much like the common strawberry, many grasses, and numerous other plants.

So our Creator has provided three methods of propagating this group of plants: insect pollination, self-pollination, and reproduction via rhizomes or runners. The rhizome/runner method works quite well, as Imes reported:

Plants that spread by runners or rhizomes can play the same game as grasses, snaking their way through the maze of grass blades or roots until they find a chink and putting down their own roots. Wild strawberries and violets employ this method successfully in lawns.<sup>5</sup>

## Colors

Violets appear in various colors: purple, pink, violet, white, or even multi-colored, as in the Johnny-jump-up, *Viola tricolor* (see cover photo). Here in Colorado, where I live, one can find violets that are totally blue, totally yellow, or totally white, growing along trails in the mountains. They are indeed a special delight!

Violet flowers have distinct lines on the petals, as mentioned earlier. These are called "nectar guides" or "pencil lines." These lines guide pollinators to the source of nectar and to a position that will allow the pollinating insect to not only retrieve the pollen it seeks, but also to transfer pollen from one flower to another as that insect travels from one plant to another. Think of these lines as

being comparable to runway lights at an airport.

Also note that the lower petal in the violet flower contains a spur. As previously discussed, this spur contains the two lower anthers (of the five). Sanders added:

Some species have hairs near the nectar opening, giving the insect something to grab onto while pushing its head inside. Functioning like our eyelashes, these 'beards' also prevent rain or dew from getting in and diluting the nectar [our Creator God has thought of everything!]. When visiting most flowers, a bee must touch the anther to pick up the pollen on it. Not so in violets. As the insect wiggles in for a drink, it jiggles loose grains from the partly hidden anthers overhead. The pollen drops and dusts the bee's back.<sup>6</sup>

Our Creator God, the Lord Jesus Christ, has even designed these beautiful plants with edible and medicinal qualities.

## Edible uses

One Colorado author, H. D. Harrington, wrote:

Apparently all species of violets are edible, even the garden varieties. We tried about ten native species and found them all good, with no objectionable flavor or harsh bitterness in any of them. Jaeger<sup>7</sup> . . . mentioned that violets are cultivated for food in the gardens in Europe and we know of a few people in this area who raise them for salads. The young leaves and flower buds are used raw. A favorite mixture of ours consists of head lettuce, halved cherry tomatoes, peeled fresh carrots, shredded violet leaves and other native salad plants as available. A few drops of vinegar can be used as a dressing. The leaves and buds are best in the spring, but even in late summer young leaves can be selected that will make an acceptable salad. We have found raw violet leaves tender and good but perhaps just a bit flat tasting when eaten alone.<sup>8</sup>

Harrington also suggested, "... violet leaves make a good substitute for tea. In fact, many of the old timers in this area fondly recall that they drank delicious violet-leaf tea when they were children. We have tried tea made from several species

including *Viola canadensis*, *V. Rugulosa*, *V. Nuttallii*, *V. Nephrophylla* and *V. papilionaceae*. Long boiling does not make the tea bitter, and a little added sugar improves the taste. Violet-leaf tea is for sale in a few food stores of this area.”<sup>9</sup>

Kershaw, MacKinnon and Pojar echoed Harrington in stating:

All violets are edible, even garden varieties such as Johnny-jump-ups and pansies. The leaves and flowers can be eaten raw in salads, used as potherbs or thickeners, or made into tea. Violets are high in vitamins A and C. The flowers can be used as a garnish (fresh or candied) or as a flavoring and colouring in vinegar, jelly and syrup.<sup>10</sup>

These three authors continued with a warning, saying, “. . . the rhizomes, fruits and seeds are poisonous, causing severe stomach and intestinal upset, as well as nervousness and respiratory and circulatory depression.”<sup>11</sup> I believe this is due to the Curse which came upon mankind and nature in general as a result of Adam’s fall; so caution and awareness are noted.

Kirk listed violets as being edible. He discussed *Viola pedunculata* and wrote, “The leaves and stems are good when eaten as greens.”<sup>12</sup>

Seebeck discussed violets as edible plants. He writes that the best tasting parts are the leaves and flowers, saying they have a mild flavor. He lists their uses: “Raw in salads, omelets, tacos, sandwiches, all-flower salads, and marinades.”<sup>13</sup> He added that it can be cooked “. . . in rice dishes, egg rolls, quiche, and as a soup thickener.”<sup>14</sup> He further lists that it can be steeped for tea.

But then he adds a **CAUTION**: “The rounded leaf violet species may be confused with heart-leaf arnica (poisonous) before flowering. Violet is not recommended for the foraging novice until flowers appear.”<sup>15</sup> So once again we encounter a part of the Curse because of Adam’s rebellion.

Sanders wrote: “Violet tastes tender and quite sweet. The flowers of *[Viola] tricolor* taste almost like grape-flavoured bubble gum.” He added: “Both the leaves and flowers are a good addition to any salad. . . Violet tea is great. Violets are high in Vitamin C and beta-carotene (two fresh violet leaves fill the RDA for vitamin C.)”<sup>16</sup>

## Medicinal uses

And now we will discuss some reported medicinal uses. Caution, however, must be

exercised. Coon wrote:

Attention was originally focused on the violet as a cancer cure because of several reported cases. Most notable of these was the case of General Catharine Booth of the Salvation Army, who, suffering from advanced cancer, is said to have found alleviation of pain with violet foliage.<sup>17</sup>

He continued: “Going back to the Romans, Pliny recommended that a garland of violets be placed on the head to cure headache or hangover, while somewhat later Dioscorides tells of its value for stomach ailments and other complaints.”<sup>18</sup> Coon mentioned many other medicinal uses of violets in treating boils, impetigo, ulcers, and other eruptions, and as being helpful in such things as psoriasis, cutaneous eruptions, and skin troubles.<sup>19</sup>

Sanders also discussed the medicinal use of violets in his treatise:

Violets were extensively used as medicines from at least the 16<sup>th</sup> century on, and many herbals highly recommended them for such problems as insomnia, epilepsy, pleurisy, impetigo, ulcers, jaundice, eye inflammations, and rheumatism. Because of their ability to lubricate the linings of the alimentary canal with a soothing coating, they were widely used as a mild laxative and as a cough medicine.<sup>20</sup>

Willard offered some medicinal uses of violets: “*Viola tricolor* is listed as a diuretic, expectorant, alternative, a mild laxative, and a mild sedative. Violets are often used for their blood-purifying qualities. They are even reported to be useful in cases of cancer because they keep the blood so clean that cancer has ‘nothing to live on.’”<sup>21</sup> He added,

“In the form of an infusion the leaves have been used to relieve bronchitis and fevers, to act as a mild laxative (the yellow ones are the most laxative ones). Leaf infusion has been used as a gargle for sore throats and coughing for centuries. Viola extract has been put into some cough syrups, often combined with coltsfoot. Violets are said to have mild hormone regulating capability. In this regard, *Viola adunca* roots and leaves were used by Makah women in Washington state during labour. Violet’s diuretic properties have been utilized in rheumatic diseases. These plants have been employed for asthma, heart palpitations, skin eruptions, boils and eczema. Salve and poultice recipes can be found in many

herbals.”<sup>22</sup>

Donald and Lilian Stokes have had a lot to say about violets. Regarding edible qualities, they wrote “. . . they contain three times as much vitamin C as oranges. The flowers can be collected and made into a jam, jelly, or syrup, and the leaves can be collected when young and fresh and boiled much like spinach for a cooked green. A friend once gave us a jar of violet jelly and we enjoyed it on toast for the several weeks that it lasted.”<sup>23</sup>

## Final thoughts

One may ask, if our Creator God provides us with this plant that is so tasty and useful, why are we plagued with warnings and dangers? As mentioned previously, this is because of Adam’s disobedience, sin, and revolt against God’s instructions, as recorded in Genesis chapter three. We look forward to the removal of the Curse and restoration of all things promised in numerous biblical prophecies (Isaiah 2:4; 65:17-25; Acts 3:21; Revelation 21:1-5).

As you walk along woodland paths in the springtime, watch for these beautifully designed wildflowers. You might even consider growing them in your garden, although they do tend to spread considerably.

**ACKNOWLEDGMENTS:** I am indebted to my good friend and fellow botanist, George Howe, for his encouragement, suggestions, and advice, as well as for proofreading this paper. I am also indebted to the reviewers who added to the quality of this paper.

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- <sup>6</sup> Sanders, p. 48.
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- <sup>9</sup> Ibid.
- <sup>10</sup> Kershaw, p. 176.
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**Editor's note:** The CRS does not endorse any health claims made by references cited in this article.

## Additional resources

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## O-rings ...continued from page 2

this logic from a scientific basis because the details were not known. Now we know better.

## Overwhelming complexity

Today we understand that even the simplest cell which is capable of independent self-sustenance is overwhelmingly complex. It is extremely organized, containing hundreds of enzymes, each controlling tiny but essential steps for the cell's survival. Individually, each of the steps or enzymes do not seem any more significant than a simple o-ring in a space shuttle. However, their improper function can prove just as fatal to a cell's survival as does an improperly functioning o-ring to a space shuttle's successful lift-off. Indeed, a seri-

ous malfunction of almost any enzyme in a cell will seriously weaken it or outright kill it.

The more we learn about the structure of living organisms, the more obvious it becomes that their initial appearance had to be made in a single step, already fully functioning. This realization, in turn, points to the handiwork of a living Creator God, One who is unlimited in His wisdom and unlimited in His ability to implement His design. Praise God for the glory due Him as Creator!

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## Math Matters by Don DeYoung, Ph.D.



### Game Theory and the Golden Rule

**G**ame theory is a branch of mathematics or logic. It explores strategies for success in business, politics, and military science, and interactions with others. The theory analyzes the range of choices and decisions available at each step, whether on a board game or in daily life. For example, why do most of us stop for red lights, even when we are in the country and no one else is in sight? Why do we tip a waitress or waiter who we may never see again? Indeed, why do we show kindness to total strangers? Another aspect of game theory considers strategies of com-

petition between opposing players in a game. Should a player be kind to a competitor, or attack at every opportunity?

An interesting conclusion has arisen from game theory. It is found that the law-abiding, friendly, forgiving person frequently comes out ahead. "The strategies emerging from mathematical research sound a lot like old-fashioned homilies: think ahead, cooperate, don't covet your neighbor's success, and be prepared to forgive those who trespass against you." (Cole, 1998, Part 3) In other words, the *golden rule* is an excellent strategy for life. This rule is stated in Matthew 7:12, "Therefore, whatever you want men to do to you, do also to them."

The winning strategy of cooperation and good will toward others comes as a surprise to many analysts. After all, an evolutionary approach to survival has traditionally assumed brutal, selfish competition for limited resources in a "survival of the fittest" mentality. Instead, the biblical approach to human interactions, that is, loving your neighbor, is found to be the successful approach.

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## Matters of Fact...

by Jean K. Lightner, DVM, M.S.

# What Are Species?

*Editor's note: You may submit your question to Dr. Jean Lightner at [jean@creationresearch.org](mailto:jean@creationresearch.org). It will not be possible to provide an answer for each question, but she will choose those which have a broad appeal and lend themselves to relatively short answers.*

**Q** What are species, how are they defined, and can they change?

**A** The definition of a biological species can be controversial. The most common definition is based on the biological species concept proposed in a book by Ernst Mayr (Mayr, 1942). Basically, a species is a group of natural populations that can (potentially) interbreed to produce fertile offspring.

Ideally, each species is given a unique name so even scientists from different countries who speak different languages can clearly understand what creature is being discussed. The name consists of a genus and species designation. For example, *Canis familiaris* was the scientific name (genus and species) given to the domestic dog.

While the biological species concept has been quite helpful, it clearly has its limitations. For example, bacteria do not reproduce sexually, so they cannot interbreed. The potential to interbreed also cannot be determined for species known only from the fossil record. Many times, even live animals cannot easily be tested for the ability to interbreed if they live in different regions of the world. For these reasons morphological characteristics are still important in defining species. Morphological (physical) characteristics were used by Linnaeus when he pioneered the field of taxonomy in the 1700s.

Naming is a human activity and falls short of the ideal. Sometimes more information becomes available and the name of a given species is changed. For example, today the domestic dog is commonly called *Canis lupus*, the same name given to the gray wolf. Wolves and dogs can easily form hybrids and are now often considered distinct subspecies, rather than different species.

The names of species can change for other reasons too, highlighting the fact that naming is very subjective. Despite these chal-

lenges and controversies, naming species remains important because scientists need some way to identify the life forms we discuss.

### Do species change?

The short answer is "yes." Most creationist scientists and evolutionists today believe that species can change. Obviously they differ in their belief of what types of changes can occur. Both would agree that changes can occur in existing traits, such as relative *dimensions* of limbs or *coloration patterns* of hair coats. Evolutionists believe that changes occur which can explain the *origin* of these traits (limbs, pigment, and hair coats).

The idea that species don't change can be traced back to Aristotle. In Greek philosophy a species was an *eidos*, or ideal form, that could not change. Later, with the Vulgate translation of the Hebrew word *mîn* (kind) as species, the term *species* became associated with the created kinds of Genesis 1:21, 24, and 25. By the time Linnaeus began work in taxonomy, species fixity was the predominant view (Wood, 2008).

By the 1740s, Linnaeus had recognized a problem with equating species with the biblical concept of kind. Sometimes organisms classified as separate species can hybridize. This led Linnaeus to conclude that God created a single species at the genus level, which had diversified into the different species seen today.

In 1924, George McCready Price published the idea that the family was generally the taxonomic unit that corresponded to the created kinds of Genesis 1 (Wood, 2008). While this is a generalization for which many exceptions probably exist, it is fairly close to the predominant view of creation biologists today (Wood, 2006).

The underlying reason why changes occur can differ between the creationary and evolutionary models. The popular neo-Darwinian view is that changes are the result of chance mutations that arise, and natural selection which eliminates less adaptive mutations.

In contrast, creation biologists have pointed out that God's purpose was that the earth be inhabited (Isaiah 45:18). He blessed life to reproduce and fill the earth (Genesis 1:22, 28; 8:17; 9:1); thus, certainly He enables his creatures to do so. So the fact that some foxes are adapted to live in the arctic while others are adapted to live in the desert is not fully explainable by chance genetic errors and natural selection. Instead, important designed mechanisms probably played a major role (Lightner, 2009).

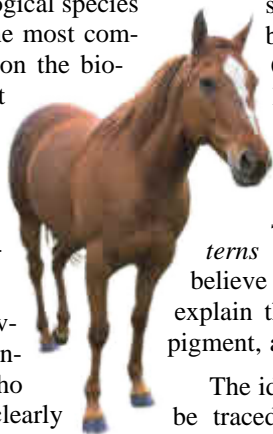
### How is a kind identified, and can kinds change?

The study of created kinds is called baraminology (from Hebrew *bara* — create, *mîn* — kind). As mentioned above, the idea that God created life according to their kinds comes from the creation account in Genesis 1. Since these creatures were created according to their kinds and instructed to reproduce, it is usually inferred that only creatures from the same baramin (created kind) can reproduce together. Thus, a primary way baraminologists identify creatures as belonging to the same baramin is from documented hybrids between species.

For any number of reasons, reproductive barriers can develop between creatures that share common ancestors. Therefore, there is no requirement that hybrids between species be fertile to identify them as from the same baramin. For example, hybrids can form between donkeys and horses, so they are considered to be from the same baramin. However, the offspring are typically sterile, so they don't qualify as the same species. Basically, a species designation is more specific than a baramin.

Sometimes the reproductive barriers are greater than just infertility in offspring. Hybrids can be weaker and/or may die before they fully develop. For example, sheep and goats are often kept together, but the birth of a live sheep-goat hybrid is extremely rare (Letshwenyo and Kedikilwe, 2000).

In other species, similar problems have been traced to incompatibility between two or more genes, where ostensibly new alleles



have arisen (Tang and Presgraves, 2009; Lightner, 2008). Thus, reproductive barriers can be considered a by-product of different populations adapting. Changes in one gene must be compatible with changes in other genes, or serious problems develop.

Change *within* kinds is consistent with both the biblical account and what we see in the world around us. These changes have allowed for animals to adapt to diverse environments as they reproduced and spread out over the earth after the Flood. However, it is generally believed that they still retain characteristics of the baramin. For example, horses, donkeys, and zebras are all horse-like and are considered descendants of two equids that were preserved through the Flood on the Ark. Despite their differences, they retain many similar characteristics.

The idea that creatures retain certain characteristics of their baramin can be helpful when hybrid data are unavailable. For example, if there are several genera within a family that are known to hybridize, members of other genera with similar morphology would be inferred to be within the baramin, too. Also, statistical methods have been developed to help infer which species belong in baramins together (Wood et al.,

2003). Using these various tools, baraminologists are gaining a clearer understanding of what species belong to the same baramin. This is important in understanding the history of life from a biblical perspective.

Most creation biologists believe that one kind cannot change into another kind, and that creatures from two different kinds cannot interbreed to produce offspring. There are several reasons for this. First, studies of the Hebrew word *mîn* suggest that it refers to divisions of life. Since God created life as kinds and told them to reproduce, it seems reasonable to infer they reproduce after their kind. Second, mechanisms exist to *modify* information for existing structures, but there are no observations or known mechanisms suggesting that information can arise to build *new* structures. Finally, if reproductive barriers can form so creatures within the same kind can no longer interbreed to form offspring, there is no reason to believe that different kinds could ever interbreed.

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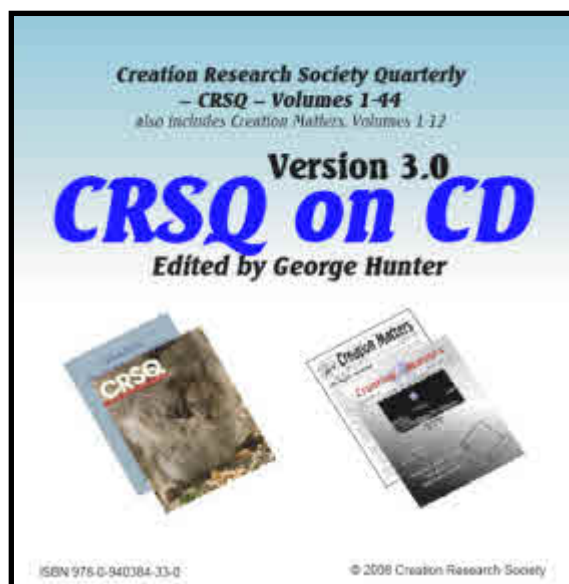
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# Speaking of Science

Editor's note: Unless otherwise noted, S.O.S. (Speaking of Science) items in this issue are kindly provided by David Coppedge. Opinions expressed herein are his own. Additional commentaries and reviews of news items by David, complete with hyperlinks to cited references, can be seen at: [www.creationsafaris.com/crevnews.htm](http://www.creationsafaris.com/crevnews.htm). Unless otherwise noted, emphasis is added in all quotes.

## Taking Inspiration from Nature

Here are some news stories showing how nature inspires engineers with wonders right under their noses.

1. Aerodynamic seed: A plant in Java has seeds that are perfect gliders. The *BBC News*<sup>1</sup> said of the Alsomitra vine: "The seeds, which are produced by a football-sized pod, **can glide hundreds of metres** across the forest." The seeds, among the largest for any winged seed, weigh 300 grams but are supported by wings just 1mm thick. "The **aerodynamics** of the giant Alsomitra seeds were studied by two Japanese engineers, Akira Azuma and Yoshinori Okuno more than 20 years ago," the report said. "They found that **design of the seed is so good** that it achieves a descent angle of just 12 degrees, a property that has **led to the seed's shape inspiring the design of aircraft**." The article includes a video of the seeds emerging from their pod and flying like a squadron of gliders around the forest.

2. Digging clam: Inspired by how clams dig into the sand, MIT engineers built "**RoboClam**," a device that imitates its living counterpart. *LiveScience*<sup>2</sup> reported that the device could be used to detonate underwater mines. The razor clam "can **burrow** into the bottom of its native mudflats **at a remarkable rate** of roughly a centimeter per second" because "The clam digs with two motions — a push upwards with its foot, which mixes the mud grains with the liquid above, and a synchronized push down. **This motion creates a liquid-like quicksand layer around its body**, reducing the drag from burrowing and **dramatically reducing the overall energy used**." So "**Inspired by this principle**," the engineers built RoboClam. It works. It's small, lightweight, and uses low energy. "The thing that surprised me most is **how robust the digging mechanism is**," one team member said. Devices using this principle might also help underwater installations, like cables, secure themselves once hitting bottom, and easily detach themselves when the equipment needs to be recovered.

3. Solar lotus: The "lotus effect" [see *Creation Matters* 14(5):9, 2009] might improve the efficiency of solar cells by as much as 25%, *NewScientist*<sup>3</sup> reported. More light could get into the detectors by installing miniature domes at the nano scale, scientists at Stanford are finding. This reduces stray reflections and ensures that more photons reach the detector. Another benefit will be the ability to repel water and dirt, just like on the lotus leaf. "Water droplets landing on the leaf cannot achieve a contact angle that breaks their surface tension, so they form beads on the leaves rather than wetting them," the article said. In the same way **water drops will roll off the surface** of the nanodome solar panel taking any light-blocking dust with them." A related story was reported by *PhysOrg*<sup>4</sup> about researchers using peptides to produce a water-repellant surface. Your future may include

self-cleaning windows.

4. Self-cleaning wing: Aussie and British researchers didn't just imitate design, they copied it directly. They wanted a self-cleaning surface that could repel moisture and dust, so they made a template of an insect wing. And why not? "**Insects are incredible nanotechnologists**," reported *ScienceDaily*.<sup>5</sup> Their wings are self-cleaning, frictionless and super water repellent.

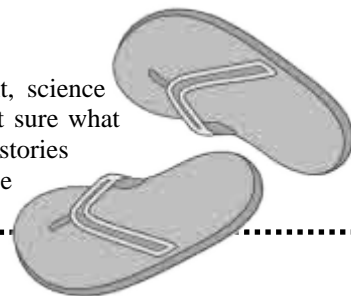
Insect wings have these characteristics due to their properties at the scale of billionths of a meter. "For instance, some wings are **superhydrophobic**, due to a **clever combination of natural chemistry and their detailed structure** at the **nanoscopic scale**," the article said. "This means that the **wing cannot become wet**, the tiniest droplet of water is instantly repelled. Likewise, other insect wing surfaces are **almost frictionless**, so that any tiny dust particles that might stick are sloughed away with minimal force." That's a dream surface for many human applications. Instead of having to invent a surface by imitation, the research team is developing a way to use the wing as a natural template to cast a polymer surface that duplicates the exact structure of the wing onto silicone gel. "**One of the advantages of this approach is that no prior 'design' of the surface of the material is needed** and so the team can **exploit the enormous diversity of surface types from different insects** and so produce materials with specific characteristics."

Evolution was only mentioned once in the opening paragraph: "The surfaces of many insect wings **have evolved properties materials scientists only dream of** for their **creations**." Good grief, evolution has nothing to do with it. This is design from beginning to end. It's design in the tiniest of flying creatures that is so good, materials scientists "dream of their creations." Humans create; so does their Creator. Imitation is the sincerest form of flattery, but plagiarism is copying some other Designer's work without giving credit.

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## Science Flipflops

Science says... on second thought, science says the opposite. Or, we're not sure what science says. The following recent stories show that things you thought science had proven may not be true at all.





What's next?

1. **Take testosterone for fairness:** The image of the testosterone-crazed, egotistical, reckless, raging road warrior is all wrong. At least, that's what British and Swiss researchers found with a controlled experiment on 120 subjects that showed people given testosterone pills were more likely to make fair-minded judgments than those with a placebo — unless they *knew* they took the testosterone.

The headlines tell all: “Testosterone does not induce aggression, study shows,” from *ScienceDaily*<sup>1</sup> and *PhysOrg*;<sup>2</sup> “Women on testosterone only think they’re macho,” from *NewScientist*,<sup>3</sup> which added, “Long blamed for aggression, promiscuity and even greed, some of testosterone’s alleged effects may be all in the mind.” One of the researchers explained the reason for the experiment: “we were interested in the question: **what is truth, and what is myth?**”

2. **Germs do a body good:** Here’s a headline to raise eyebrows from *LiveScience*:<sup>4</sup> “Germs may be good for you.” Those raised on the image of nasty germs may be surprised at what science is saying now: “Exposing kids to nasty germs might actually toughen them up to diseases as grown-ups, mounting research suggests.”

3. **Survival of the... what?:** Oh my goodness, what would Charles Darwin say about this headline from *ScienceDaily*<sup>5</sup> and *PhysOrg*:<sup>6</sup> “**Social Scientists Build Case for ‘Survival of the Kindest.’**” Was all that talk about Malthus and nature red in tooth and claw for nothing? “Researchers at the University of California, Berkeley, are **challenging long-held beliefs that human beings are wired to be selfish,**” the article begins. “In a **wide range of studies,** social scientists are **amassing a growing body of evidence** to show **we are evolving to become more compassionate and collaborative in our quest to survive and thrive.**” If only Hitler and Stalin had known.

The authors attempted to give Darwin a reprieve by quoting him as the father of compassion theory: “This **new science of altruism** and the physiological underpinnings of compassion is **finally catching up with Darwin’s observations nearly 130 years ago,** that sympathy is our strongest instinct.” There’s a research project for someone: what did Darwin mean, in context, and in the larger context of his view of how evolution operates?

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## Ferocity of Geological Change Stuns Scientists

A crack in Ethiopia 500 meters long took just days to form. *NewScientist*<sup>1</sup> reported about a team of scientists who used seismic sensors to reconstruct the event. “They found that a 60-kilometre-long, 8-metre-wide dike of solidified magma formed in the rift, causing the crack, in a matter of days.” They believe the crack will some day form a new ocean like the Red Sea.

The team was amazed by the rapid change. “The **ferocity of what we saw** during this episode **stunned everyone,**” said a team member who came over to study the continental rift that began in 2005 as plates began to shift. “Similar dikes in Iceland are typically around 10 kilometres long and 1 metre wide and can take years to form,” the article said. “The new study shows the **formation of dikes can occur in larger segments — and over much shorter periods of time — than previously thought.**” They estimate it will take 4 million years for an ocean to form in the rift.

The report on *PhysOrg*<sup>2</sup> called this a “magnetic deformation.” The scientist interviewed was also interested in how quickly this occurred but said the ocean formation is “happening slowly, likely to take a few million years.”

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## Gap Grows Between Origin-of-Life Research and Simplest Life

Evolutionists are celebrating experiments that allegedly showed that RNA chains can assemble in water — given nucleotides to start with.<sup>1</sup> The suggestive steps over the gap from nonlife to life should be tempered with other discoveries that life is anything but simple.

*NewScientist*<sup>2</sup> reported that a “‘Simple’ bacterium shows surprising complexity.” A species of *Mycoplasma*, an obligate parasite, should represent a stripped-down life form that can be considered a minimal living cell. Researchers at the European Molecular Biology Laboratory uncovered “uncanny flexibility and sophistication, allowing it to react fast to changes in its diet and environment,” even with just 689 genes (compared to 4000 in most other bacteria). Peter Bork said, “There were **a lot of surprises.** Although it’s a **very tiny genome, it’s much more complicated than we thought.**” Among the cell’s tricks are the ability to use antisense strands of DNA as molecular switches, the ability to employ operons in sequence rather than simultaneously, and the ability of cellular components to do multitasking.

Another report on *ScienceDaily*<sup>3</sup> described the highly-choreographed dance of the chromosomes during meiosis. Scientists at UC Berkeley found that “the cytoskeleton appears to encourage the **dance of the chromosomes** around the nuclear membrane as they search for their partners, and **help make sure they have the right partner before meiosis continues.**” The cytoskeleton does this by means of teams of molecular motors called dyneins. “Our work teaches us about the **fundamental mechanisms of genome organization,** about how **cells execute processes in precise ways,** **monitor their own mistakes and correct or eliminate them.**”

A cell is so smart, it can even employ mistakes on purpose.

*ScienceDaily*<sup>4</sup> reported that some cells cause their own mutations for protection. By making proteins with mistakes (the wrong amino acid inserted here or there), they employ a “**non-genetic strategy** used in cells to create a **bodyguard** for proteins.” As a result, “this way the cells can always **ensure** that a **subset of these proteins is somewhat less sensitive to the extra hits**” caused by invading viruses, chemicals, or other bacteria. It “sounds chaotic and doesn’t make a lot of sense according to the textbook,” but the net result is that the organism gains protection from reactive oxygen species when under stress by means of “**regulated errors**.” The organism must have ways of recovering from these errors after the stress is relieved, else the population would mutate itself out of existence.

Interestingly, human designers might employ a similar strategy to ward off computer viruses. *NewScientist*<sup>5</sup> reported that a company in the UK is patenting a strategy to insert “dumb code” into file headers to defeat any computer virus instantly. “A key feature of the scheme is that no knowledge of the virus itself is needed, so it can deal with new, unrecognised ‘zero day’ viruses as well as older ones,” the company claims. It remains to be seen whether human programmers will be as successful at defensive strategies as cells are.

If cells are so well designed that they can even regulate errors to maintain their genetic integrity, how could life evolve? This might be a defeater for neo-Darwinism. And if even the most minimal life is so complex it surprises scientists, how can origin-of-life researchers keep up hope? Their simple experiments are like baby steps on the beach with an ocean to cross, and no motivation for the baby to go in that direction. Details, details. They sure get in the way of a good myth.

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## New Word Means Green Living: Bioplastics

**D**id you know that 10% of America’s oil consumption goes into making plastic? The plastic products from oil pollute our landfills and harm the environment. Soon, a company founded by a biology professor from MIT is going to make plastic from something green: corn.

Anthony Siskey and Oliver Peoples, according to *PhysOrg*,<sup>1</sup> sequenced a gene in bacterium that makes a naturally occurring polyester called polyhydroxyalkanoate (PHA). The bacterium creates the bioplastic out of sunlight, water, and a carbon source. By tweaking the bacterium to produce more PHA, the researchers will be able turn it loose on corn, sugar cane, or vegetable oil and other plant material. The bacteria will reciprocate by cheerfully generating plastic for people. The resulting bioplastics are biodegradable and reduce dependence on foreign oil.

Speaking of oil, maybe that is *not* a product of decayed plants. *PhysOrg*<sup>2</sup> reported evidence for a 19th-century theory that oil and gas can be produced by inorganic processes deep in the earth. If so, that may alter estimates of how much global oil remains in the earth’s crust.

Science is one of man’s most valuable activities when it is done right. It is an organized form of knowledge construction that should result in benefits for mankind and the environment. Absent from this project were useless excursions into storytelling. The researchers made a discovery, tested techniques to amplify the output, applied it, and now have the opportunity to market it.

If they are successful, it will be a win-win situation for everyone. Knowledge and wealth will be generated. The researchers deserve to make money for their invention, and businesses will create new jobs to mass-produce it, create products, and distribute them. Consumers will enjoy the products,

and the earth will be greener. Governments will benefit from increased tax revenues from both income and sales taxes. Dependence on foreign oil will decline — a political and economic benefit. This shows that applied science is not a zero-sum game. Contrary to mercantilism and socialism, nobody has to get poorer for someone to get richer. Because these researchers had the freedom to investigate and dream, everyone stands to benefit from their scientific discovery.

And who is the unsung hero of our story? The bacterium, which already had the information technology to take simple water and sunlight and carbon and build a complex polymer out of it. There’s a wealth of additional technologies embedded in the living world waiting to be discovered. The future is bright for biomimetics and information-based research.

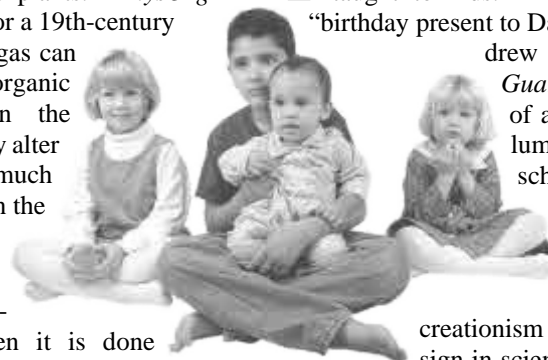
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## Darwin Marketed to Kids

**T**here’s a move on to get Darwin’s ideas taught to kids. Britain is giving a “birthday present to Darwin,” wrote Andrew Copson for *The Guardian*,<sup>1</sup> in the form of a national curriculum for primary schools that will mention evolution for the first time — and prohibit teaching of creationism or intelligent design in science lessons.

The addition of evolution to elementary school curriculum was in response to a letter promoted by the British Humanist Association and signed by “scientists and experts.” Copson was obviously delighted with what he perceived as a long-overdue smackdown against intelligent design — a belief espoused by the majority of his fellow Britons:

Those who **care about public reason** are **routinely shocked** by opinion **polls** and surveys **showing high levels of credence given to the idea of intelligent design**. The most recent poll purported to demonstrate that **a majority of Britons think that**



it should be **taught alongside evolution** in schools.

To solve this problem, we have to know **what causes it** and there are **two reasons why you might prefer the idea of intelligent design** to that of **evolution**. You may do so because your **prior ideological convictions**, mostly to do with **religious belief**, simply don't allow you to **accept the evidence** that is **presented to you**. Or you may do so because you **genuinely do not know of the evidence for evolution**, have never had it **explained** to you, or because you **just don't understand it**. In a **society as decreasingly religious as England**, it is **impossible to believe** that most of the people who do not accept evolution are **motivated by ideology** rather than ignorance. **This means that the best way to solve the problem is through better education** and that is what makes the **inclusion of evolution in the science curriculum as early as possible so important**.

Repeatedly in his article, Copson characterized the Darwin doubters as ignorant, but refused to acknowledge any ideological bias on his part. He also made it seem as if all evidence is for evolution and against religion — despite numerous evidential claims by intelligent design against evolution. He spoke favorably of a slate of new children's books on evolution such as *What Mr. Darwin Saw*, *How Whales Walked into the Sea*, and *Mammals Who Morph*. "This is a **good thing**, because as **evolution is arguably the most important concept underlying the life sciences**," he said, "providing children with an **understanding** of it [evolution] at the **earliest possible age** will **surely help lay the foundations for a surer scientific understanding later on**."

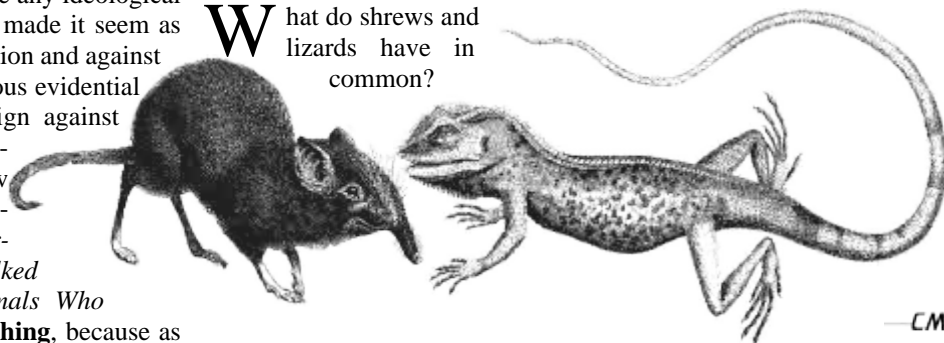
A new company is making Darwin toys for tots. Charlie's Playhouse<sup>2</sup> offers "**Evolution for kids**" in the form of apparel, games, cards, and a giant evolution timeline kids can hop and skip on. Of special interest is their 30-second commercial, *Why are we making evolution toys?* The answer: nobody else is. The commercial laments the thousands of toys about physics, biology, and chemistry — even all those popular dinosaur toys — that don't mention evolution. "But we do!" a cartoony Darwin exclaims, dancing proudly at the end of the video.

William Dembski, the double-PhD scholar of the intelligent design movement, has had enough with all this. His latest article on *Uncommon Descent*<sup>3</sup> is called "**Getting over our love for Darwin**." In it he quotes Malcolm Muggeridge, who wrote, "I myself am convinced that the **theory of evolution**, especially the extent to which it's been applied, will be **one of the great jokes in the history books** in the future. **Posterity will marvel** that so very **flimsy** and **dubious** an hypothesis could be accepted with the **incredible credulity** that it has."

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## How a Biotoxin Evolved

What do shrews and lizards have in common?



Not much, but the two animals developed the same toxin in their digestive enzymes, giving them both a poisonous bite. *ScienceDaily*<sup>1</sup> said a harmless digestive enzyme became overactive through three related changes. "What had been a mild anticoagulant in the salivary glands of both species has become a much more extreme compound that causes paralysis and death in prey that is bitten." That similar "catalytic enhancement" occurred within two unrelated species suggests that the path to this toxicity is not extremely improbable. It could be selected if it enhances the ability of the species to survive and reproduce. This was also reported by *PhysOrg*.<sup>2</sup>

This case might provide a test of Michael Behe's ideas about limits to evolutionary change. It appears the changes to this enzyme are minor — something like opening up the active site a little wider and

allowing the substrate easier access. If so, it is no more the "evolution of new protein function" than changing the concentration or pH of an existing acid. It does not involve adding new functional information. This is "horizontal evolution" that enhances and distributes existing traits according to the environment.

Christians might take note of this story as a possible insight into the origin of natural evil. This toxin appears to be a slight modification of an existing digestive enzyme. It did not have to be created de novo. Perhaps many things that cause pain and suffering, including thorns, are not far removed from original beneficial designs.

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## All by Design

by Jonathan C. O'Quinn, D.P.M., M.S.

## Looking at Evolution with Open Eyes

**E**volution teaches that natural selection only preserves the genetic mutations that are useful to the survival of any given species.

However, as we shall see, evolutionary theory cannot be used to explain the countless biological wonders found throughout nature.

Since underwater visibility is quite limited, evolutionary theory suggests that fish should have evolved with poor vision, relying instead on other senses. Unfortunately for evolution, sharks have extraordinary vision, with eyes designed for excellent vision in various conditions of light, color, and at varying distances. The shark's pupil can dilate and contract rapidly, quickly adjusting to light levels at different depths. Having many rods (as well as cones), the shark's eyes are 10 times more sensitive in low-light conditions than our eyes.

Most remarkable is a structure located behind the shark's retina, found only in



nocturnal animals such as cats — the tapetum lucidum. After light passes through the shark's retina, this structure reflects the light back out, re-stimulating the retina as it passes through and enabling excellent vision, even at night. In brighter conditions, special cells containing a black pigment cover this "mirror" to keep perceived light levels from being too intense. How could such a perfectly functional and ingenious structure develop accidentally and in stages?!

The Bible teaches that an all-wise Creator made all living things according to kinds, giving each species every specialization it needs, plus nothing. It should therefore not be surprising when nature shows us things which evolutionary theory cannot explain. As science's understanding of biology grows, evidence accumulates which supports the Biblical idea of a highly ordered and carefully designed creation.

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#### Figure caption:

A white-tip shark (*Triaenodon obesus*).

Image ID: reef0724.

Photographer: Dr. Dwayne Meadows.  
Courtesy of the National Oceanic and Atmospheric Administration/Department of Commerce.