

higher for collaborations between 2-year and 4-year faculty. I am sure you have more examples, and NABT would like to hear about them and help with their dissemination, if it can (you can always contact me at [dfrench@okstate.edu](mailto:dfrench@okstate.edu)). This journal, our conference, and our electronic communications (News & Views, website, blog, etc.) serve as dissemination mechanisms for excellent practice and research, but because scientists at colleges and universities are familiar with the practice of and need for dissemination, they are the most frequent contributors. We would like broader participation. I encourage you to submit your ideas and maybe to seek out a colleague with more experience in authoring to help you if you feel the need. Find collaborators – we will all benefit and so will our students.



Donald French  
NABT President – 2012

## LETTERS

I have been a high school biology teacher for 37 years and began my career before the taxonomic designations called “Domains” existed. Something that has always bothered me about the current three-domain, six-kingdom system is that it defies biological sense and common sense. Why do two of the domains have a single kingdom? That arrangement does not make sense in terms of organization and in terms of teaching. I also believe that the current system is not reflective of the biological reality.

I propose an alternative arrangement:

- Have two domains: Prokarya and Eukarya
- Prokarya would include two kingdoms: Eubacteria and Archaeobacteria
- Eukarya would include four kingdoms: Protist, Fungi, Plant, and Animal

This arrangement seems to me to better meet the demands of biology and common sense.

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One of Mendel’s seven genes in peas is the I gene on chromosome 1. Peas with at least one dominant allele, I, are yellow at maturity, whereas peas with two recessive genes, ii, are green at maturity. In the paper “Mendel’s Peas and the Nature of the Gene: Genes Code for Proteins and Proteins Determine Phenotype” (Offner, 2011), I described the I gene as coding for PAO, an enzyme involved in the degradation of chlorophyll. It turns out that the situation is more complicated than this.

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The I gene codes for a protein called “stay green” (SGR). The function of this protein is not known. It is not PAO, because the gene that codes for PAO has been mapped to pea chromosome 7 (Moffet & Weeden, 2005). For some unknown reason, the reaction catalyzed by PAO does not occur unless the SGR protein is present. Because ii peas do not make the SGR protein, they do not degrade their chlorophyll and they have a green phenotype. I thank Stefan Hörtensteiner for pointing out this correction. Further details of what is known about SGR function can be found in Hörtensteiner (2009).

So now, nearly 150 years after Mendel published his work, we can say that two of his genes are well understood at the biochemical level (tall/short plants; round/wrinkled peas), two are partially understood (red/white flowers; yellow/green peas), and three are not understood at all (axial/terminal flowers; inflated/constricted pods; green/yellow pods).

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