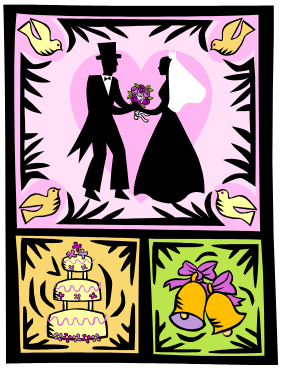

ScienceWatch-The Genetics of a Happy Marriage

"What we wanted to do was to see if variation in the same gene was associated with variation in how humans bond with partners." – H. Wallum

"You Don't Bring Me Flowers Anymore" is the title of song by Neil Diamond and also the lament of many an unhappy wife. Now men whose wives complain that they are not romantic can blame it on their genetic make-up according to a study published in the September 16, 2008 issue of the *Proceedings of the National Academy of Sciences*.

This story begins in 2005 when two researchers from Emory University, Elizabeth Hammock and Larry Young, reported that they found a gene in a tiny rodent, the prairie vole, which determines how devoted males are to their mates and young. The gene, a receptor for the binding of the hormone vasopressin to neurons in the brain, varies in different vole species.

Prairie voles (*Microtus ochrogaster*) have a longer version of the receptor gene, causing more vasopressin binding, and the males are monogamous mates and attentive fathers. In contrast, montane voles (*Microtus montanus*) have a shorter version of the receptor gene, and these males are one-night-standers who play no role in raising their offspring. The Emory scientists showed that by inserting the longer version of the gene they could turn philandering males into loving husbands and caring fathers.

The vole study intrigued Hasse Wallum, a behavioral geneticist at the Karolina Institute in Stockholm, Sweden, who was heading a team doing a twin study on more than 1,000 heterosexual couples married or living together for at least five years. Wallum decided to see how a similar vasopressin receptor gene in humans affects marital behavior in men. The human form of the gene has a number of different variants, or alleles, so the Swedish team took DNA samples from their subjects to determine which alleles they possessed. The subjects also answered a questionnaire on the quality of their relationship with their partner. The team then analyzed the data, looking for any association between the alleles found in the men and marital discord.

They found a striking relationship between the presence of one allele (dubbed 334) and strained relationships. For example, twice as many men with two copies of the 334 allele reported having a marital crisis or threat of divorce in the past year as compared to men without the allele (34% vs. 15%). Furthermore, men with two copies of the 334 allele were also twice as likely (32% vs. 17%) to be living with a woman without being married than those without the allele.

Marital quality as perceived by the female partners was also affected by the presence of allele 334. Women whose partners had one or two copies of the allele expressed much more dissatisfaction in their relationship. Their partners were less likely to hug and kiss, and were more likely to be disagreeable and distant.

Sociologists who have commented on this study agree that genes may affect behavior, but they remind us that we are also influenced by culture and that people can change, so prospective brides should not rush to have their fiancées tested for allele 334.

Meanwhile, I'm off to buy my wife a dozen roses.

Saul Scheinbach