

Dalmatian Backcross Project Past, Present and Future

By Mary-Lynn Jensen, Ph.D.



Stocklore Hybrid (original cross), taken 1975. Ch Shardown's Rapid Transit x Lady Godiva.

Recently, DCA members were given the opportunity to take a new look at a breeding program that was started over three decades ago. The Backcross Project began in 1973 when geneticist and Dalmatian breeder, ¹Robert Schaible Ph.D., decided to see if he could produce Dalmatians that were free of risk of forming uric acid stones.

Others scientists before him had determined that normal uric acid production was controlled by a single dominant gene and that no one had identified any Dalmatians with the gene for normal levels of uric acid production. So, Dr. Schaible developed a plan to transfer the gene from another breed to the Dalmatian.



The gene transfer was achieved by breeding a Dalmatian female to a Pointer male and then breeding the resulting offspring to purebred Dalmatians for several generations until the offspring were ³¹/₃₂ purebred. At that point Dr. Schaible had

RFBCN Black Eyed Susan CD, handled by Holly Nelson, DVM. Photo taken in 1983. Ch Sunspot's Rambler Ottomatic CDX x Stocklore Stipples.

dogs with all the characteristics of Dalmatians except for the uric acid defect. In 1981, with the approval of the DCA Board, two of Dr. Schaible's dogs were registered by the AKC as purebred Dalmatians. Later in 1981, AKC placed a hold on registration of their progeny.

Dr. Schaible's remarkable achievement was not well understood at the time and the registration of his dogs caused considerable controversy within DCA. In 1984 the DCA membership was polled and the majority of those who responded indicated that they were not in favor of continuing the testing and breeding of the Dalmatian-Pointer backcrosses. The AKC was informed about the vote so that AKC would not change its mind about the registration freeze.

After the vote in 1984 DCA avoided discussion of the Backcross Project for the next 22 years. It is unlikely that many of today's DCA members had ever heard of the Backcross Project until the 2006 General Membership meeting when the Board announced that the membership would be polled again on the question of the Backcross Dalmatians. A ballot was mailed to every member and this time the results were the reverse of the vote that had taken place in 1984. This time, the majority voted in favor of continuing the testing and breeding of Backcross Dalmatians.

During the years between 1984 and 2006, Dr. Schaible continued his Backcross Project by breeding his Dalmatians to AKC registered Dalmatians. In the '80s and early '90s a few other breeders also raised Backcross Dalmatians. During those years the most active breeder of Backcross Dalmatians, other than Dr. Schaible, was Holly Nelson, DVM.

Dr. Nelson (Forrest Dalmatians) and fellow Californian, Joanne Nash (Rambler Dalmatians), raised a number of Backcross litters and worked hard to convince DCA to reconsider the project. They got ILP numbers on several of their dogs so that they could compete at AKC events. Several dogs of their breeding earned AKC obedience titles. One of them, ²RFBCN Lidgate's Trierer Franc, won High in Trial at the DCA National Specialty in 1988.

Unfortunately, Dr. Nelson, who was in her early 40s, died suddenly in 1990. After her death her dogs were disbursed. Within a short amount of time the west coast branch of the Backcross Project all but disappeared, leaving Dr. Schaible to carry on alone.

Even though he did not have a network of fellow breeders or support from the breed's parent club, Dr. Schaible was able to keep the project going by breeding a litter or two per year. Over time, the last of his females with the gene for normal uric acid production grew old and died, leaving no daughters behind to replace her.



UKC Ch Stocklore Squire of Britannia. Photo taken in 1992. Stocklore Jacob's Ladder x Robinwood's Apple Jack Annie CD (Count Miguel daughter).

At the beginning of 2005 all that remained of the project that began with so much promise were two middle aged stud dogs, frozen semen from two of Holly Nelson and Joanne Nash's dogs, and a few intact males living in pet homes with people who had no interest in breeding.

A breeding program with no females is in serious trouble. So it was cause for celebration when, in March 05, one of Dr. Schaible's stud dogs produced two bitch pups with the gene for normal uric acid out of a Robinwood bitch provided by Sara Ledgerwood.

Dr. Schaible kept one of the bitch pups and sent the other one to Denise Powell. And with that pup, the west coast branch of the Backcross Project was reinstated. Shortly after the arrival of that pup in California, Denise bred one of her AKC champion females to one of Dr. Schaible's stud dogs and produced a litter that included five pups (four females and one male) with the gene for normal levels of uric acid production.

Dr. Schaible did a second breeding in 2005 and also produced five pups with the gene for normal uric acid production (three females and two males). Suddenly, things were beginning to look up for the Backcross Project. News of these three litters reached the



Aberdeen BC Aria (born 2005). UKC Ch Stocklore Top Spot x Ch Aberdeen's Twilight Time (littersister to Ch Aberdeen's Time Bandit).

DCA Board around the same time as Dr. Susanne Hughes' report on the results of the ultrasound testing done at the 2005 DCA National Specialty. Dr. Hughes concluded her report with the suggestion that DCA re-explore the option of introducing a gene for normal uric acid production into the general population of Dalmatians.

The stage was set for DCA to take a new look at the Backcross Project. The board discussed the project at their next three meetings and decided that it would be a good idea to seriously consider all options that show promise of reducing the number of Dalmatians that suffer from urinary tract problems due to high uric acid levels.

During the past two decades there have been enormous advances in the field of genetics. Today's breeders are armed with a greater knowledge and understanding of canine genetics due to the many books, articles, seminars and websites available to them. Scientists have a map of the canine genome and continue to identify genes that cause specific health problems. Researchers at UC Davis Veterinary School determined that the gene that controls uric acid production is located on canine chromosome 3. They identified a ³marker on that chromosome that can be used to determine the presence or absence of the normal gene.

Since the Backcross Project began, there have been questions about whether the types of urine tests used by the project provide adequate proof that the Backcross Dalmatians are truly free of the risk of forming urate stones. Debate on how best to resolve these questions continues to this day. Now that the lines of communication between DCA and the people involved with the Backcross Project have been reopened, this issue may finally be resolved.

The words of British geneticist, Dr. Bruce Cattanach, who utilized a ⁴Boxer x Corgi backcross to produce a strain of naturally bob-tailed Boxers that are now registered with The Kennel Club in Great Britain, can be used to also describe the current status of the Dalmatian Backcross Project.

"...I know that everyone in Boxers, myself included, tends to focus upon the show faults of these pups, forgetting the main point is that they look like Boxers, not a mixed breed. The probability that their show faults derive from the Boxer parts of their ancestry, not the Corgi part, is also likely to be missed. However, Boxer type is now essentially established and so the final task will be to develop the show potential. I do not expect this to be any harder than with purebred Boxers.

In conclusion, although these pups may not fulfill everyone's idea of show quality Boxers, I think it is fair to claim that the original primary objectives of the project have been achieved; a gene has been successfully transferred from one breed to another, and I have my bob-tail Boxers which do not need to be docked...."

If you substitute Dalmatian for Boxer, Pointer for Corgi and low uric acid production for bob-tailed, Dr. Cattanach has eloquently described the situation where the Backcross Project now stands.

What is the future of this project? Much of that is up to you...the DCA member. The goal of those currently involved with the Backcross Project is to produce Dalmatians that are good representatives of the breed who carry and are capable of passing on the gene for production of low levels of uric acid. The ultimate goal is for these dogs to be registered with the AKC so that interested breeders can freely integrate the gene for low uric acid production into their own breeding lines, if they so choose.

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Footnotes

¹ Dr. Schaible breeds Dalmatians with the kennel name Stocklore. He described his project in the April 81 *AKC Gazette* magazine. A copy of his article can be found at http://www.dalmatianheritage.com/about/schaible_research.htm

² **RFBCN** stands for **R**ambler (Joanne Nash's kennel name) **F**orrest (Holly Nelson's kennel name) **B**ackCross **N**ormal.

³ Linkage analysis with an interbred backcross maps Dalmatian hyperuricosuria to CFA03, by Safra N, Schaible RH, Bannasch DL. *Mammalian Genome* 2006 Apr, 17.

⁴ A synopsis of Dr. Cattnach's Boxer x Corgi bob-tail backcross project can be found at <http://www.steynmere.com/ARTICLES1.html>.

Mary-Lynn Jensen, Ph.D. breeds Dalmatians under the Woodwynd prefix. She has been involved with Dalmatians for nearly 20 years, participating in conformation, obedience, agility and road trial events. She currently serves as an Editorial Consultant on the DCA Health Committee and was one of the principal authors and speakers at the Backcross presentation made to the DCA Board of Governors at the 2006 DCA National Specialty. Her background and training are in Biology and Education. She currently works as an Educational Consultant for It's About Time – the largest publisher of National Science Foundation funded educational materials.