

Why I Remain Unconvinced About Backcrossing

Part Two

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Part One affirmed I believe the Backcross **Theory**. Determining if the Backcross **Project** has enough hard medical evidence to prove the theory is another matter.

Wanting to move beyond promises-of-theory into reality-of-facts, I read and reread eleven “pro-backcross” references⁽¹⁻¹¹⁾ especially the elaborate presentation to a 2006 DCA Board meeting as written by Dr. Robert Schaible, Mary-Lynn Jensen and Karen Rochin.⁽¹⁾ Each of the 11 references theorized hopes. Mostly every one alluded to increased numbers of backcross Dalmatians and to increased numbers of backcross generations. The original cross-breeding was 1973 and Dr. Schaible still stipulates online “*One litter of backcross Dalmatians is bred each year...*”⁽⁸⁾

I therefore expected 34 years of breeding and testing backcross pups had accumulated into a fountain of totaled results flooding forth into documented proof with cumulatively-tabulated hard medical evidence. The 34 years did not. Like Ponce de Leon failing to find the elusive fountain-of-youth, I searched in vain but found no fountain of retroactive research reports, no totaled test results, no flood of cumulatively impressive hard data.

Throughout medical sciences, if scientific claims are without a statistically-significant amount of evidence, the claims’ theoretical hopes cannot be moved into proven facts. This discrepancy became apparent for the Backcross Project when I found a retroactive grand total of backcross Dalmatians from the 1973 first backcross litter through to the 2006 DCA Board presentation:

“...4,095 Dals and 1 Pointer...”
in eleven generations⁽⁷⁾

That huge number was deservedly impressive until it became empty without totaled data – anywhere – consolidated for “4,095 Dals in eleven generations.” [***Ed note: Of the 4095 dogs in an 11-generation pedigree, only 10-15 are LUA Dalmatians, depending on which breeding is analyzed.] In disappointing numeric comparison, the only explicit uric acid test results in the same report⁽¹⁾ were 22 pups whelped in three 2005 backcross litters, hardly a persuasive quantity of hard medical evidence. That explicit factual data divides out to an insignificant one-half of one percent (0.5%) of 4,095 Dalmatians^{***} after 34 years.

Inferior spotting and flawed pigmentation in backcross dogs are also concerns of many DCA members including Dr. Schaible himself acknowledging, “...most of the backcross Dalmatians that have normal levels of uric acid have smaller spots, with less definite margins and more interspersed white hairs than are typical of show-type, purebred Dalmatians...”⁽⁴⁾ Searching again for a reality-of-facts, I unsuccessfully looked for exactly how many of

the 4,095 backcross Dalmatians^{***} showed objectionable spotting and flawed pigmentation vs. desirable markings. Photographs of 14 pictorial samples of backcross spotting were shown⁽¹⁾ to the DCA Board. Those 14 photos represent one-third of one percent (0.3%) of 4,095 dogs.^{***}

Undocumented, unsupported claims seem to characterize the eleven articles. Why do cumulative urinary uric acid test numbers, indeed any totaled hard data at all, from 4,073 backcross Dalmatians^{***} (99.5% of 4,095) remain conspicuously absent throughout them? How can the DCA membership be expected to confidently judge for themselves the credibility of the Backcross Theory if the hard evidence given the DCA Board for proof is so extremely limited – only 22 pups with hard evidence out of a total of 4,095 Dalmatians?^{***}

I studied the 22 uric acid results carefully. Equally carefully, I examined the handful of pigmentation photos meant to be reassuring. Some were individually convincing but did little to offer the required amount of data how **representative** the photographs were of 4,095 backcross dogs.^{***} Without totaled test tabulations for those thousands,^{***} I wonder if 22 uric acid results or that handful of photos **accurately typify backcross dogs** or if the pictures were unusually good examples understandably selected to impress.

Here’s four of many backcross unknowns:

1. What was the exact percentage of **all** 4,095 backcross Dalmatians^{***} testing out as homozygous or heterozygous high vs low urinary uric acid?
2. What was the purine food intake (known to affect uric acid levels) **before** testing? Were all pups fed the **identical formulation** before testing to avoid dietary variables affecting results?
3. Exactly how many of 4,095 backcross Dalmatians^{***} Dr. Schaible acknowledges⁽⁴⁾ with “**smaller spots?**” With “**less definite margins?**” With “**interspersed white hairs?**”
4. Of 4,095 backcross Dalmatians^{***} tested reportedly **only as pups**, exactly how many were or were not followed **as adults** to determine if they – then – first developed stone disease as strongly suggested by 2,700 non-backcross stone-forming Dalmatians reported in a 2005 vet journal?⁽¹²⁾ Another example of pup vs adult follow-through, 5 non-backcross Dalmatian pups confirmed with uric acid crystals were monitored by a Dalmatian Stone Disease expert.⁽¹³⁾ All had been fed high protein, high purine growth chow. The crystals disappeared when shifted from puppy formulation to an adult one. Followed until they were five years old,

none of the 5 pups developed active Dalmatian Stone Disease as adults despite their abnormal status as pups. Granted an anecdotal, biased report but nonetheless eloquent how important it is procedurally to follow-up with pup vs adult testings to confirm or deny conclusions before projecting puppy-only testings indiscriminately into all adult Dalmatians.

Some of these sample questions are admittedly unfair (though legitimate) considering how recently the horizons of knowledge about Dalmatian Stone Disease have been so extended by stone disease experts. Their immense clinical knowledge today underlines again how important it is to have consultation with stone disease authorities when creating and conducting any research involving Dalmatian Stone Disease, but which has not been done during 34 years of backcross.

One overshadowing powerful challenge to the Theory's very core from stone specialists differs significantly with theorizing geneticists. The specialists have had clinical experience to date with over 310,000 dogs with canine stone disease of which some 20,000 are Dalmatian patients,⁽¹²⁾ compared to uric acid test results reported⁽¹⁾ of only 22 pups from three backcross litters:

All three stone disease experts recognized worldwide as U.S. authorities unanimously question if abnormal uric acid is indeed the "cause" of Dalmatian Stone Disease. Their clinical experiences are in opposition to the Backcross Theory which asserts breeding out only abnormal uric acid will totally abolish the breedwide Dalmatian-unique urate stone problem. That said, the significance of the stone experts' unanimous statements impacts all backcross results not only retroactively for 34 years but for that matter any other or future research based on abnormal uric acid as the only cause.

Caution by U.S. Stone Disease Authority No. 1 – In 2005, Dr. Carl Osborne emphasized how unknown it is that abnormal uric acid – alone – causes Dalmatian Stone Disease. Publishing⁽¹²⁾ on some 20,000 Dalmatians, he reminded the membership of the American Veterinary Medicine Association: "... *for as yet unidentified reasons, not all hyperuricuric Dalmatians [those with abnormally high uric acid in their urine] form uroliths [become urate stone-formers]*"

Caution by U.S. Stone Disease Authority No. 2 – Dr. Joseph Bartges reinforced⁽¹⁴⁾ how unknown in a DCAF-funded 2006 online study of 2,118 Dalmatians, "*All Dalmatians excrete 'increased amounts of uric acid' relative to other breeds of dogs, yet... [Dalmatian urate] stone formation is nowhere close to 100%...*"

Caution by U.S. Stone Disease Authority No. 3 – Making it unanimous, the third of three U.S. stone experts, Dr. Gerald Ling (Dr. Osborne's equivalent, now retired, at U. Cal Davis Vet Medical Center), reminded⁽¹⁵⁾ the membership of the American Veterinary Medicine Association, like Dr. Osborne: "*Although all Dalmatians excrete relatively high quantities of uric acid in their urine, apparently only a small percentage form urate stones.*"

These challenges are not surprising because uric acid is not the underlying "defect." The breed-unique defect is the absence of one phase of Dalmatian urine production resulting in uric acid remaining abnormally insoluble. Uric acid is a manifestation of the Dalmatian-unique defect, not the defect itself.

Two experimental genetics tests relating to Dalmatian Stone Disease are being researched. One test is to identify the gene carrying low uric acid vs high uric acid (although this test's objective may be meaningless if abnormal uric acid can be present without urate stone formation.)

The other experimental genetics test announced during the first Betty Garvin Memorial Lecture at the 2007 DCA Specialty⁽¹⁶⁾ was of a "transport gene." It has the theoretical potential to make the entire pre-existing Backcross Project obsolete! The thrilling promise of identifying a transport gene may just finally be the stone disease panacea for our beloved breed – if proven with sufficient data and authentication. Why? It presumably addresses not manifestations of but the underlying cause itself of Dalmatian Stone Disease. If substantiated, Dalmatian breeding then may pinpoint the presence or absence of the transport gene, regardless of uric acid status.

Conservative restraint, though, please. Despite the remarkable promise of a transport gene existing and being identifiable, I plan to resist impetuously premature conviction and, instead, will try to stifle irrepressible excitement with healthy skepticism while awaiting proof and authentication. This, also because I'm so aware the ultimate vote for AKC registration will undoubtedly this time be irreversible.

A significant quantity of scientific evidence is required by research traditions to prove the transport gene just as it is for the past 34 years of backcross. Only corroboration by others within the genetics and canine stone disease communities will confirm if the intoxicating promise of discovering a transport gene will indeed have been realized. I sincerely hope so. Until then, my hopes for the backcross theory (and now for the transport gene) have not diminished. But, with totaled data of only 22 backcross pups provided to DCA from 4,095,^{***} I am left with no choice but still to await more persuasive hard evidence before I can ultimately vote in good conscience for distantly-future AKC registration of current backcross dogs.

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****Ed note:*

Of the 4095 dogs in an 11-generation pedigree, only 10-15 are LUA Dalmatians, depending on which breeding is analyzed.

2007 European Congress Dalmatian Show



It was quite an experience. In the photo are people in native dress. It was incredibly hot, and they were dedicated to wear the outfits. They proudly displayed all the native breeds and showcased them in the large show setting. (Over 10,000 entries!) The Dalmatian had top billing at the show and was featured in all the advertising and signs. I was downloading my photos, and thought I would send these along in case anyone was interested.

Sincerely,
Grace Fritz

I am a provisional Dalmatian judge and recently attended the Eurodog show in Zagreb, Croatia. They had a large Dal entry and specialties each day I was there. I watched one day of judging. I did not notice any other Americans around, and thought I would forward some photos to your club. I attended the Dal national and Judge seminar and mentoring a few years ago in Lawrence, KS.

I am a Shar-pei breeder, and attended the show with a friend exhibiting dogs I had bred.

