

"Which comes first? The chicken or the egg?"

Part III of a Series

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This children's playful question may well be paraphrased, *"Which comes first? Uric acid or Dalmatian Stone Disease?"* Like the word game which has no answer, it also is unknown throughout worldwide veterinary medicine if uric acid is the trigger causing **the onset** of urate stone forming in Dalmatians. I emphasize *"onset"* because anyone concerned with Dalmatian Stone Disease should know there is a distinct scientific difference between dormant uric acid levels and whatever unknown it is which triggers that pre-existing uric acid to start metabolizing into urate stones. Dalmatians' high levels would seem to be the obvious culprit except it has been unanimously discredited as the causative trigger by all three U.S. stone experts. Despite a century of worldwide research revelations about most aspects of Dalmatian Stone Disease, the triggering cause has yet to be identified. It is exasperatingly unknown exactly what pushes unafflicted Dalmatians into urate stone forming. This directly challenges the basic uric acid premise on which the entire Backcross Theory depends.

Concentrating on cosmetics after seeing LUA/Backcross dogs at the 2008 DCA Specialty and online LUA website video clips is diverting attention away from the only medical purpose of the 1973 Dalmatian hybrid crossing to a Pointer. Dr. Schaible's scientific goal was then and continues to be abolishing Dalmatian Stone Disease. Somewhere within the past 35 years, his admirable medical objective has been overshadowed, indeed almost replaced by the DCA membership being bombarded to accept a new but unproven LUA/Backcross breedline for show ring competition. Visuals of LUA/Backcross dogs are being presented everywhere apparently to reassure the DCA membership how they cosmetically conform to non-backcross Dalmatians. Pedigree presences of famous purebred sires and dams are trumpeted for the same reason. Along the way, abolishing Dalmatian Stone Disease seems to have been camouflaged into neglect and obscurity perhaps because absolutely no hard scientific proof has yet to be introduced much less accompany all the promotion of backcross cosmetics.

This article addresses that original and still-unchanged 1973 medical objective. It assiduously avoids anything unrelated to urate stone disease, especially backcross spotting. Besides, what breed improvement would be accomplished by permitting LUA/Backcross dogs into the purebred Dalmatian gene pool even if every backcross dog was genetically proven not to carry coexisting objectionable spotting, structure, movement and temperaments? Setting those show ring diversions aside leaves not a shred of hard evidence LUA/Backcross Dalmatians have moved beyond the 1973 original and still-unproven theoretical goal to abolish Dalmatian Urate Stone Disease.

The only scientific data offered from 35 years of testing are urine levels in backcross pups of low-uric-acid (LUA) vs high-uric-acid (HUA). Do those uric acid testings qualify as acceptable proof LUA/Backcross affects Dalmatian urate forming?

**ABNORMAL URIC ACID IS NOT THE TRIGGERING
CAUSE OF DALMATIAN URATE STONE DISEASE!**

Not according to the unanimous U.S. stone experts, although they are the first to acknowledge the admittedly conflicting chemical paradox purebred unafflicted Dalmatians are HUA. In contrast, the LUA/Backcross Theory persists the triggering cause is indeed uric acid and only uric acid.

The stone experts do not deny but totally agree with the chemical validity of how we're being reminded, *"...no uric acid, no urate stones."* They also do not deny the second chemical fact Dalmatians - unique among all dogs - demonstrate breed-specific high levels of uric acid in their urine. But, it is here the experts necessarily continue on to put the two chemical facts into medical perspective within what else is known today about Dalmatian Stone Disease.

I am influenced by the stone experts so their assertions explain why I consider testing of backcross Dalmatian pups only for uric acid levels to be conscientious and sincere but nonetheless uninformed and meaningless as legitimized proof by modern stone disease knowledge. It appears any research which spotlights only abnormal uric acid levels in Dalmatians is self-defeating because of its outdated self-limiting premise singling uric acid out as the only cause of Dalmatian Urate Stone Disease. Witness, please, the pertinent overview by the most acclaimed stone expert in the world, Dr. Carl Osborne: *"Urinary stone-forming should not be regarded as a single disease with a single cause. Instead, it is a syndrome of many contributing factors combining to progressively increase the risk of insoluble stones in canine urine."*

If *"...no uric acid, no urate stones"* is true (which it is, chemically), if abnormal levels of uric acid typify Dalmatian urine (which they do, chemically), should not their combined chemical dynamics have already produced a breed of Dalmatians all afflicted with urate stone disease? Uric acid abnormalities were first reported in 1916, and breed-uniquely in Dalmatians in 1938. Throughout the ensuing 70 to 92 years, if abnormal uric acid chemistry is indeed the triggering cause per the LUA/Backcross Theory, shouldn't it have manifested itself as a universal urate stone pandemic throughout all purebred Dalmatians including even those backcross hybrid dogs testing as HUA? There never has been such a Dalmatian plague. So much for how disappointingly illogical chemical reasoning like *"...no uric acid, no urate stones"* can be to theoretically justify LUA/Backcross' dependency on uric acid as its isolated sole premise.

Given such opposing medical viewpoints, I turn to the accumulated clinical experience of Dr. Osborne and peers. If *"Through experience comes wisdom"* is true, the stone experts' judgments earn everyone's confidence, their ongoing teachings to the membership of the American Veterinary Medicine Association having accumulated to over 31,000 Dalmatian stones (as of 2005, current totals undoubtedly higher). In comparison, the LUA/Backcross presentation to the DCA Board documented only 22 backcross pups and then, only their uric acid levels. We're told of 4,095 backcross dogs in an 11-generation pedigree except the Dalmatian numbers seem to be an arithmetic equation, not a count of actual case histories existing for each of those theorized dogs. Clinical numbers of tangible Dalmatians affect my acceptance of scientific judgment calls. That said, the stone authorities are unanimous, *"Although all Dalmatians excrete relatively high quantities of uric acid in their urine, apparently only a small percentage form urate stones."*

If and when LUA Dalmatians are ever tested for stone-forming by formalized research protocol, how convincing will whatever their anticipated lack of urate stone disease be, when the majority of high-uric-acid, non-backcross Dalmatians already do not form urate stones?

Worldwide medical and genetic observations reinforce the chemical paradox, for example:

- ✓ *"Although homozygosity for the recessive gene responsible for high uric acid excretion predisposes Dalmatians to the formation of urate [stones], the exact cause [triggering stone formation] ...is not known..."*
- ✓ *"...not all Dalmatians, even those with high urinary urate excretion and urine urate concentration, actually form [urate stones.]"*
- ✓ Dalmatians afflicted with urate stone disease do not have any higher urinary levels of uric acid than do those who are not stone formers.

If uric acid is therefore not the trigger, the still-unknown cause goes to the heart of the unproven premise of LUA/Backcross. We're told by breeding away from purebred high-uric-acid dogs, Dalmatian Urate Stone Disease will automatically be chemically abolished because, *"...no uric acid, no urate stones."* That generalized theorizing is chemically incomplete, leaving unsaid abnormal uric acid infrequently metabolizes into urate stones and only in a small percentage of Dalmatians.

Since the three experts' unanimous quotes were published in the Summer 2007 *Spotter*, how can LUA/Backcross continue to ignore their more clinically-experienced, insightful judgments that uric acid is not the triggering mechanism and accordingly does not qualify as the *"cause?"* With the launch platform of the LUA/Backcross Theory thereby so fundamentally challenged, any hard data becomes far more than traditionally mandatory to reverse the skepticism about its unproven uric acid premise. No such evidence exists so far. Theory only but still no proof. Is it surprising therefore such serious doubts exist when no data about LUA-affected stone disease has emerged from 35 years since the original hybrid cross breeding? Absence-of-proof, it should be noted, is not a backcross exclusive. No scientific evidence by any scientist anywhere in the world has found abnormal uric acid to be responsible for the onset of Dalmatian urate forming. A manifestation, yes. **The all-important triggering cause, no.**

This article opened with paraphrasing a child's word game. Let it end with another paraphrasing, *"Although all LUA/Backcross Dalmatians excrete relatively low quantities of uric acid in their urine, just as many high-uric-acid non-backcross Dalmatians fail to form urate stones as do LUA dogs."*

It will be wonderful if and when tangible medical evidence begins to prove if abnormal uric acid is indeed the triggering cause of the onset of Dalmatian Stone Disease in purebred but not in backcross dogs. Until then, all other LUA/Backcross allegations unrelated to Dalmatian Stone Disease appear - by default - to be non-medical promotion for a hybrid breedline unjustifiably to enter the existing purebred Dalmatian gene pool.

References

A century of stone disease writings exist today for retrieval by computerized medical libraries. But not anything about the unknown triggering cause of Dalmatian Stone Disease, as relayed by this article from worldwide Dalmatian reports in hundreds of scientific publications. Exact bibliographic pagination of reference(s) to specific statements is available by request to the author.

Addendum

A March 2008 official announcement of still another of several known uric acid transport genes, SLC2A9, was published and heralded in the international journal, *Nature Genetics*. It is an impressively enormous collaboration as written by 40 scientist-coauthors referencing another 61 and takes its well-deserved place within the peer membership of the world's geneticist community. The 40 coauthors surveyed abnormal uric acid diagnoses in 2,500 human patients in four countries. Remember please Dalmatians, humans and apes are the only three species sharing the unique uric acid abnormality manifested as abnormal, unstable urine in Dalmatians. No Dalmatians were studied, only humans with their uric acid problem manifested as gout. This does not diminish the impact of the latest uric acid transporter being genetically incriminated, this announcement only for gout. Which urate-associated disease is manifested by each of the three species does not devalue the revelations of the latest discovered transporter, whether gout in humans or urate stones in Dalmatians. Perhaps a coincidentally amusing omen, one of the countries citing human gout patients was Croatia which I believe was known previously as Yugoslavia and one of whose provinces is Dalmatia.

Respectfully submitted,

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