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From the Publisher...

Dear members of PADS and readers of our Journal,

In this issue of the Journal of PADS International, we publish two contrasting views of the effect of societal changes over the last 30 years or so, on the Saluki in the countries of origin.

In the first article, Gail Goodman argues that because of these changes, in particular the disappearance of the nomadic way of life and traditional hunting, the import and admixture of Western-bred hounds and a more Western-oriented approach to breeding and showing, the Eastern Saluki no longer exists in its original habitat and is more likely to be found in the West, where the descendants of the original imports have been preserved by closed stud books.

In the second article, Sir Terence Clark maintains that these societal changes have not affected all areas uniformly and that the long tradition of breeding and hunting with Salukis continues in the small towns and villages on the margins of the desert much as before. Even in the Gulf, where these changes are most in evidence, the Saluki is still being

used as a hunter, although the means of employing its qualities may have been brought up to date.

We leave it to the readers to form their own opinion and we welcome their views.

Sincerely yours, *Vladímír Beregovoy*Secretary of PADS, International

In This Issue...

| WHY RIDE A CAMEL WHEN YOU CAN RIDE A HARLEY- | |
|--|--------|
| DAVIDSON? | 5 |
| SALUKIS IN THEIR NATURAL HABITAT: SOME CHANG | GES IN |
| BREEDING AND HUNTING PRACTICES | 64 |
| LIST OF MEMBERS | 103 |

Why Ride a Camel When You Can Ride a Harley-Davidson?

Gail D. Goodman

USA

The Saluki has occupied much of my life and thoughts from the early 1970s when I met the breed in the Middle East to the present. The internet has opened for all of us the entire world where sighthounds are bred, hunt, and are shown. And with the shrinking world comes expanding opportunities to acquire hounds purported to represent an unbroken genetic chain back to the breed beginnings....any and all ancient breeds.

Western Saluki lovers have no "bad memories" of the past in the eastern regions of the breed. As a matter of fact, what we do is imagine the past, live it through romantic travelogues, books, movies, we live it effortlessly and painlessly. So, of course, we can cling to it with nostalgia and to the Salukis that link us with it. This nostalgia inclines many people to believe that time actually stands still in the east.

Most Saluki lovers, however, believe the past is past....life is now, showing is now, winning is now....enjoy the spotlight now. Who cares about ragged nomads and camels?

To preserve through education...... 5

The past is dusty old books and blurry old pictures. An apt metaphor for "the now" fancier, why ride a camel when you can ride a Harley-Davidson? Why be an anachronism when you can be a fashion trend?

Yet the fascinating question remains, how is it that some families of Salukis today still look like they stepped off of a 4000 year old Tepe Gawra seal or out of a wall mural in an Egyptian Pharaoh's tomb or the foundation imports from the Middle East into the West, particularly England in the late 1800s early 1900s? How has this hound moved apparently unchanged, easily recognizable, through thousands of years as a hunting companion of mankind? Today there is so much interesting material available about culture and genetics, with the expanding breeding options putting so much pressure on the western registered gene pool, I thought I'd try to apply some of this academic material to help us deal with our options as Saluki fanciers.

Competition and evaluation in the purebred dog world is based mostly on subjective criteria and social relations. This is further influenced by our insatiable fascination with the novel and extreme. The old and dusty, the plain and moderate become less and less interesting, while the flashy and colorful and unusual become irresistible. Camel vs. Harley....silly

6

question. And that Saluki on the ancient seals, in the ancient murals becomes harder and harder to recognize, harder and harder to breed, to show, to preserve.

So, let us begin with a brief look at the geography of the great belt of desert that produced our coursing hounds. We then consider the irreparable and universal changes to nomadic cultures and their changed material status and lack of nostalgia for their traditional circumstances. How these changes have impacted Salukis is explored.

We briefly consider the evolution of the dog from the wolf and the genetic profiles of dog breeds. From this research comes the discovery of ancient or basal signature breeds, breeds showing long-term continuity, genetically and zooarchaeologically. The Saluki is the only basal signature sighthound.

We speculate on how this unique genetic profile has persisted and discuss the proposition of sexual isolation or controlled breeding. We also present the danger posed by European amalgamated breeds when introduced into indigenous regions, of overwhelming the basal signature breed.

We return to the recorded testimony of travelers of past centuries and their perceptions of Arab values regarding their horses. We also look briefly at the values and goals of

To preserve through education...... 7

contemporary sighthound enthusiasts and brokers and the goals of western Saluki fanciers. We conclude with a discussion of the complex decisions necessary to maintain the health and well being of our Salukis.

Part I: Cultural Roots

Before I share the cultural and genetic research material, I want to create a physical context of the world our dogs evolved in. C.V. Findley's fascinating and readable book The Turks in World History (2005) does just that. In the opening pages Findley describes the natural ecology of the entire region that favored the evolution of swift coursing hounds. After reading this geographical description, it becomes extremely easy to visualize coursing hounds along a continuum of structure, type, and physiology from the Sahara through Arabia to Kazakhstan and beyond.

Viewed from a satellite in space, the most striking feature on earth is "the belt of desert that stretches, nearly unbroken, from northwest Africa to China." This arid belt breaks down into a hotter, southward-lying zone to the west and a colder, northward-lying zone to the east. The hotter, southwestern region stretches from the Atlantic coasts of Morocco and Mauritania eastward to Iran, Pakistan, and

northwestern India. Within the southerly zone, the term Middle East defines the region consisting of Southwest Asia and Egypt, with Turkey, Iran, and the Arabian peninsula at the other corners. The colder, northerly, eastern belt of the desert lies in Inner Asia, spanning historical West Turkistan (now Turkmenistan, Uzbekistan, Tajikistan, Kazakhstan, and Kyrgyzstan), East Turkistan (China's Xinjiang province, the historic Uyghur country), and part of Mongolia. Toward the east, the northerly belt of aridity is also much more broken by mountain chains than is the southern, westerly one. (pp.9-10)

Findley refers to the land routes traversing this vast region as the equivalents of the ocean routes of exploration and ports-of-call. He mentions the Silk Road as the most legendary route, pointing out that "In reality, it was not a single route but a network of them, generally oriented east and west but with branches in all directions---towards India, Iran, or northern Eurasia" (p.14). So, now we have a general picture of the physical geography that people and hounds adapted to.

Within this vast belt of desert and steppe grasslands are hundreds and hundreds of cultural groups and all of them are undergoing pressure and change. And insofar as cultures are integrated systems, changes ripple throughout every aspect of

To preserve through education...... 9

the life of the group. My recent article, "Shifting Desert Sands...Changing Desert Breds" (CSW, Spring 2012) was mainly a reflective essay but also dealt with some of those changes for the Bedouin of Arabia and the Sinai and Negev deserts, their impact on the young people of the regions and their Saluqis and how that affects us. This article is a continuation on the same theme with a focus on the findings of writers embedded within the changing cultures and some recent DNA research

Since I am well aware of the fact that in the world of purebred dogs people believe exactly what they want to believe, sharing the observations of writers within formerly nomadic cultures will hopefully broaden our understanding of indigenous dogs today in their native regions of the world. Change has permeated even the most remote regions and people have greeted change very differently. While for "comfortable" people east and west, change may be lamented, for those who lived the hardships of the past, of nomadism, much that has changed has been embraced.

The first example of the nomad reality is from D. P. Cole's classic 1975 work: Nomad of the Nomads: the Al Murrah of the Empty Quarter. At the end of this important

book I found the Al Murrah answer to the camel vs the Harley-Davidson question.

The Al Murrah love their camels, talk about them incessantly, and live off them throughout their lives, but they prefer to travel long distances quickly by truck and they all praise the Al Sa'ud and oil for making their life in the desert a bit more comfortable and secure than it was in the other Arabia a few decades ago. (p.139)

Cole refers to two brothers, one traditional and one modernized and observes that neither bemoans "the passing of the old days. They all look forward to change and hope for a better life" (ibid).

I had read the very same sentiment documented by R. Balgin of Almaty, Kazakhstan, in his article "The Tazys of Almaty Province, Part I" (2011). Balgin stated that in the 20th century "people of Kazakh nationality lost their entire nomadic culture which is thousands of years old" (p.19). He continued:

Naturally it is impossible to put the historical process in reverse and nobody is interested — in doing so. Even the most traditionally oriented Kazakhs cannot imagine themselves outside of the settled system of modern civilized principles. None of the "hard core" — Kazakhs — would — pursue — his political interests in favor of retuning the tazy to the natural or

To preserve through education...... 11

traditional way of life side by side with a human hunter with the transition back to the difficulties of natural husbandry, barter trading and hardships of nomadic life and dependence on the vagaries of nature. (ibid)

Balgin commented that no one, not even a small group, "would give up the comfortable accommodation of modern life" for the sake of maintaining the tazy in its original place embedded within a nomadic society. The only hope for tazy preservation at all, Balgin concluded, would be within "a format of shows and appropriate remuneration in the form of money" (ibid). He continued:

The breed irreversibly lost its original place. More precisely, it has been sacrificed by man to the new way of life. This is no longer a tendency, but rather an accomplished fact. (ibid)

Hence, Cole, writing about the nomads of the Empty Quarter of the Arabian desert and Balgin, writing about the nomads of the steppes of Central Asia echo the identical sentiment of the nomads themselves....none is interested in turning any clocks backwards! Balgin commented that life dictates other priorities and preserving the tazy is not high on the list of former nomads. I did not find any mention of Saluqis in Cole's book except for one photograph with the caption that

in 1968-70, when Cole did his fieldwork, every Al Murrah tent had a least one such dog. Cole concluded that "Unlike romantic Westerners who bemoan the passing of the ancient way of life and fear that debasement and moral bankruptcy will replace the proud, aristocratic ways of the desert Arabs, the Al Murrah praise Allah for the security and peace that today characterize most tribal affairs in Arabia and for the easier life that modern economic development is making possible" (p. 24). And though Cole observed that glimpses of the past may still be seen on occasion, "the world has changed for even the most isolated nomad or villager, and they all know that the old Arabia has gone forever" (p.139).

What does this converging reality of traditional environments, the physical and cultural environments that produced our Salukis, the changed focus and orientation of the nomad people, have to do with whether we in the western Saluki fancy choose the camel or the Harley-Davidson? The answer has two parts. First, if the cultural context has drastically changed, we must now ask whether any of "the original" Salukis have actually survived these upheavals. Secondly, the choice has become a metaphor for how we value the past, value foundation dogs and their pedigrees, value bloodlines based on more recent eastern imports, and choose

our direction for the future Preservation is as much about the future as it is about the past.

One of the most interesting aspects of the situation is that change among former nomads appears to be experienced quite naturally, no nostalgia for the hard times of the past...none. For the "modern" Arabian peninsula Arabs Salugi races with huge monetary prizes and beauty contests have become popular. Yes, the wealthy are still able to hunt wild hare and gazelle but they do so with Saluqis of their own creation. This once rare desert hound, as well as all other sighthound breeds, is now imported into the native regions from sources worldwide and locally bred according to thoroughly cosmopolitan Arab inclinations. The Arabs view Saluqis as "their breed" and they have every right to define it and bred it as they wish. Change has vastly expanded, overwhelmed, the original desert gene pool. Cole documented that organized horse and camel racing preceded Saluqi racing.

In his recent article "Where have the Bedouin Gone?" Cole (2003) observed that beginning in the 1960s horse racing and then camel racing became popular in the cities of Arabia and the Gulf causing a search for purebred Arabian horses which "contributed to resurrecting these breeds from almost dying out in the region and their consequent reintroduction

[emphasis added] as an esteemed element of Arab cultural heritage. Search for purebred race camels, and also milk camels, led elite urban men back to Bedouin camps and their herds in the steppes" (p. 256). Cole claimed that this shared interest, Bedouin and sedentary, has "fostered an elite appreciation of Bedouin as individuals and as renowned collectivities strongly tied to an Arab past and many of its cherished customs" (p. 257). Though racing was not a regular feature of groups in the past, it resonated strongly among all groups beginning in the 1960s, continuing to gain prestige today. It appears that the same resurrection and reintroduction has occurred with the Saluqi, starting in the 1990s, as happened with the horse and camel.

Another fascinating element of change for the Arabian peninsula Bedouin, as urban demand for sheep and goat meat increased, Cole (1975) wrote that

Increasingly the Saudi Arabian Bedouin hire other Bedouin from impoverished areas in Iraq, Jordan, and Syria to herd their sheep and goats while they work in urban areas and only occasionally visit their herds and families. As a result, a kind of nomadic ranching complex may be emerging in the deserts of Saudi Arabia. (p. 162)

Also important for background knowledge is the traditional relationship between the Bedouin and the wider society. Cole characterized it as one of mutual interdependence. Cole cited Bujra who wrote that "the urbanite, the villager, and the Bedouin together participated in a complex web of social, economic, political, military, and religious relationships---many of which continue into the present, though often in drastically changed and changing form" (p. 106).

Shifting our focus to the northern steppe nomads, Balgin (2011) observed that today Kazakhstan is a multinational country and tazys are kept "by people of different ethnicities: Kazakhs, Russians, Turks, Greeks and others" (p. 21). Tazy theft and tazy trafficking are not uncommon because though no one wants to turn the clock backwards, the dogs are becoming a status symbol. However, without some material incentive to maintain the breed, the indigenous Kazakh tazy gene pool is threatened.

Taking a worldwide perspective, other impacts of changing cultural conditions on indigenous sighthound and dog breeds generally was summarized by K.N. Plakhov (2007) in his article "Cynological Conference in Almaty Kazakhstan Republic." This conference brought together a broad range of

people devoted to preserving a variety of indigenous types of canines. Plakhov summarized the threats to these canines, observing that the populations of indigenous or aboriginal dogs in their countries of origin are declining rapidly for many reasons: globalization, eliminating ancient traditions, including those related to the use of dogs; increasing mixing with purebred dogs imported even in the most remote areas; wars, starvation, decline of the economy and impoverishment of the local population in certain regions; purposeful extermination of aboriginal dogs; refusal of local dog clubs to work on aboriginal breeds or a total absence of such organizations, etc. (p. 4). R. Balgin (2011) further illustrated the pressures on the Kazakh tazy, citing an ever increasing number of hunters using all-terrain vehicles and guns, hunting at night with high powered lamps, making the tazy as a hunting partner irrelevant. Balgin observed that the process of breed degradation will continue and "it is very likely that only show lines will remain as part of commercially oriented programs...the remaining tazys will lose their special characteristics and will subsequently become absorbed by the colossal number of crossbred yard dogs" (p. 20).

T. Dubinina (2005) addressed similar issues facing the Kyrgyz sighthound, the taigan, in her article, "Living Legend

To preserve through education...... 17

of Tyan-Shan Mountains." She wrote that during most of its history the breed reproduced without much human intervention or control in geographically isolated regions. The arrival of new settlers brought new dog breeds which began to mate with local taigans because the taigans were traditionally never confined or tethered. With the increased availability of firearms, improved transportation, industrial development, and the mass influx of new people, the taigan became less and less important as a provider for the family. Further threats occurred in the 1970-80s with a government emphasis on increasing game animals, hence free ranging taigans, along with feral dogs, were simply shot. She speculated that under such pressure, the "pure type" of taigan could only be found in the most inaccessible high mountain regions of Kyrgyzstan. So, whereas Plakhov believes that purebred or "cultured breeds" have been imported and mixed with indigenous breeds even in the most remote areas, Dubinina believes that pockets of pure indigenous blood can still be found in the most remote regions.

However, cultures and groups of people have never been truly "isolated." This is a cherished myth of dog fanciers, the belief that the breed they fancy has actually managed to exist within some kind of bubble of isolation and therefore remains pure and free from any kind of interaction with other breeds, distinct and frozen in its ancient and original pure form, both physically and genetically. Purebred dog fanciers cling to this idea fervently. However, how a breed is defined, east or west, has always been a cultural construct: people create descriptions (standards) and set parameters for what is or is not a particular breed. Modern genetic research has now added a "new" parameter for what is or is not a Saluki. The metaphor of the camel vs. the Harley-Davidson is way more complex than I initially imagined. Hence a solid grasp of the cultural context of the Saluki, past and present, in indigenous regions is essential.

Before I leave the topic of cultures in flux, a few more situations are important to consider. First is the fact that worldwide governments have dealt in similar ways with nomad populations, hence from Morocco to Saudi Arabia to Kazakhstan and beyond people and their animals have been forced to change in similar ways. This has placed somewhat similar pressures on coursing hounds throughout these vast regions. Cole (2003) wrote that the governments in the states where nomads lived did not support the continuation of migrations.

Newly independent Arab governments and Saudi Arabia (which had not been colonized), the newly created Arab

To preserve through education........... 19

League, and various organizations of the newly created United Nations began to call for sedentarization of the Bedouin. The unquestioned, and largely un-researched, solution to the Bedouin "problem" from the 1940s through at least the 1970s was settlement and a shift from livestock to crop production. (p. 242)

Change brought disruption to the social fabric of nomad and semi-nomadic life with increasing socio-economic differentiation. In some regions privatization of land ownership and land registration policies made some Bedouin shaikhs big landowners while other members of the tribe became impoverished. In the 1950s the Bedouin of Arab state societies everywhere were at the bottom "in terms of most indicators of socioeconomic status..." (p. 241).

According to Cole (2003) a general extension of central state power into all territory of the state has occurred everywhere. "All non-demarcated land in desert and steppe is state property; and tribal or communal, rights to land ownership are not legally recognized (p. 251). Hence, in an economic, political, and legal sense there has occurred a "detribalization" of the Bedouin. However, Cole proposed that among the Bedouin themselves one can see a growing sense of Bedouin-ness, of a shared identity that includes a sense of a

common history and sub-culture that cuts across tribal boundaries that perhaps divided people more in the past. (p. 252)

Social ties with kinfolk, residence in areas where they can still graze some livestock, a keen interest in genealogies and poetry still characterize many Bedouin communities. Whether settled or on the range, Bedouin today have been administratively integrated into the larger society.

Since social change has been pervasive, affecting every aspect of Bedouin life, it has certainly impacted the Saluqi. The relevance of all of this will become clear. The physical and cultural context is essential to understanding the scientific research. All Saluki lovers see our breed as unique among dogs, of ancient origins and "purebred." We intuit a "specialness" to Salukis not shared with other breeds. And it seems that this intuition has a basis in recent DNA research. Therefore, it is essential to grasp not only our romanticized notions of the past with arduous desert migrations, interactions between the desert and the sown, hunting, feasting and all that was the context of the daily life of people and hounds, but to also grasp the fact that irreversible change has occurred. Cole (2003) commented on the tendency of urban easterners and westerners alike to maintain the perspective that the Bedouin

To preserve through education...... 21

have special powers and senses or that they have remained unchanged since "time immemorial." He asserted that this simplistic attitude merely forces the Bedouin into the category of some "exotic artifact of the past" or "a romantic representative of some Other" when in fact their lives are like "ordinary, everyday people" trying to adapt to change (p. 260).

In the concluding section of this essay I will discuss how the changing perceptions of the Bedouin are enabling the Bedouin to market their "Bedouin-ness." In some regions today, Bedouin identity and honor, as well as the artifacts of Bedouin culture are being promoted as part of "national culture." No more plain old "desert bred" Saluqis. We now have a proliferation of "country of origin" landraces. But do we have historical, genetic continuity from the beginning? Is the Saluqi still a Saluki?

Part II: Ethology and Biology

In Part I the evidence of irreversible cultural change in the regions of the world where Salukis originated and can still be found was presented. In this section we will examine some ethological and biological data that will help us to understand how Salukis came to be, first as dogs, then as an ancient breed. All dogs are domesticated animals; they have not been wolves for anywhere from 15,000 to 150,000 years. In their fascinating book, Dogs, R. and L. Coppinger (2001) propose that wolves gradually became dogs by invading the ecological niche of the garbage dump. This set in motion the process that led to the evolution of dogs through natural selection. Generation after generation of tamer wolves gained access to the steady new food source. The Coppingers propose that:

Variation among the first wolves feeding in the first dumps would mean that some would have been genetically less nervous than others. The less nervous wolves would have eaten more, and turned those calories into puppies rather than using them to run away. All that was being selected for was that one trait---the ability to eat in proximity to people. (p. 60)

The single trait of flight distance set in motion the evolution from canis lupus to canis familiaris. The Coppingers stress that through natural selection wolf qualities were severely modified. "Dogs do not think like wolves, nor do they behave like them....dogs can't think like wolves, because they do not have wolf brains" (p. 67). They conclude:

The biological reality of all this is that the wolf is now a distant cousin of the dog. The canid family tree split, and

To preserve through education...... 23

wolves and dogs went along their separate branches. The wolf displays specialized adaptations to the wilderness, and the dog displays specialized adaptations to domestic life. The two canid cousins are adapted to different niches, and they are very different animals because of it. (ibid)

Since all dogs are associated with human cultures, how humans live, travel or migrate, trade, make war and peace affect canine populations. Who people "associate with" determines who their dogs associate with. And this is as true today in the internet age as it was 15,000 years ago when the first dog was buried with its owner, or in the 5th century BCE when Phoenicians, who considered dogs sacred, created a dog cemetery next to a palace in the ancient seaport city of Ashkelon on the Mediterranean Coast of Israel.

These cultural facts are now being traced through the genetic make-up of our dogs. Since people seem almost as fascinated by the genetic history of dogs as they are with human history, there is a growing scientific focus on canine origins and the evolution of "breeds." In this section we will look at a few studies and their implications for our Salukis.

Though the Coppingers propose that behaviorally dogs and wolves are very different canids, and though there is tremendous phenotypic variation between wolves and dogs and dogs themselves, dogs and wolves retain very similar genomes. Numerous studies have attempted to locate the exact point of domestication and how many wolves contributed to the foundation populations of dogs. Whether there were four main female wolf contributors or more male and female wolves involved, Leonard, Vila, and Wayne (2006) state that "hybridization between wolves and dogs was likely an important influence on the diversity of the dog MHC [major histocompatibility complex]" (p. 104). They propose that there was probably "extensive backcrossing with male wolves early in the history of dog domestication..." (ibid).

Current research by B. M. vonHoldt et. al. (2010) suggests that regardless of the precise numbers of original wolf contributors, grey wolves from the Middle East are the dominant source of genetic diversity for dogs. VonHoldt et. al. proposed that the primary centers for dog origination are the Middle East and China using the archaeological record or mtDNA diversity, however the most SNP sharing for the majority of dog breeds is with Middle Eastern wolves. A few breeds shared more haplotypes with Chinese wolves. On the subject of origin, the researchers concluded that

These data implicate the Middle East as a primary source of genetic variation in the dog, with partial

To preserve through education...... 25

secondary sources of variation from Europe and east Asia. (p. 900)

Leonard et. al (op.cit.) suggest that despite genetic similarities between wolves and dogs, reiterating the Coppingers, they agree that there are great behavioral and morphological differences. Leonard et. al. propose that "changes in gene regulation rather than mutation in structural genes may account for some of these behavioral differences" (p. 105). As the Coppingers proposed, tameness, diminished flight instinct, eventually resulting in docile behavior, appears to have led to the morphological traits typical of dogs. There is clearly an epigenetic component to dog evolution. The Coppingers go so far as to state that "behavior is always epigenetic--above the genes--an interaction between the genes and the developmental environment" (p.114). They describe the whole nature-versus-nurture controversy as passé: "nature cannot ever be separated from nurture."

On the origin of breeds and a specific genetic profile for a breed, Leonard et. al. state:

Studies based on mtDNA found no correlation between mtDNA haplotype and breed....The lack of differentiation between breeds for mtDNA markers is surprising, given the morphological uniformity within breed

compared to the large differences between breeds, and suggests that modern breeds have a recent origin from a well mixed and genetically diverse population. However, this conclusion conflicts with historical evidence suggesting an ancient and restricted geographic origin for some dog breeds. (p. 108)

We will return to this critical observation about ancient and historical evidence for "some dog breeds." Here it is only important to understand that there appear to be genetically identifiable differences between ancient and modern breeds, the Saluki being an ancient breed. Referring to recognizable and common breeds of European origin, they are so closely related that a recent origin for all of these breeds is suggested "and that they share a common recent ancestry from a diverse population of dogs. This result is consistent with the historical evidence which suggests that most European breeds originated in the past few hundred years" (Leonard et.al., p. 110). This means, simply, that differences for those breeds are in phenotype rather than genotype.

Concluding their discussion on the evolution of the dog from the wolf, Leonard et.al. recommend that future research must include a wider variety of populations of dogs, such as indigenous dogs. They comment that "such native populations

To preserve through education...... 27

may contain unique diversity that provides insights into the pattern and process of domestication and will document the vast reservoir of genetic diversity that could be tapped to rescue breeds with disease problems" (p.111). This is precisely the sentiment of those of us who have looked to the indigenous Eastern Saluki as a repository of both history and health. And this is precisely why the ongoing changes in all formerly culturally cohesive regions is a source of such great concern to modern Saluki breeders

Since our focus is not on the common breeds of European origin but on the ancient breed, Saluki, it is essential that the process that created or formed our breed be well understood. It was not sexual isolation that created Salukis, though because they have clearly been valued as companions in the hunt for thousands of years, their reproduction must certainly have been, in some environments more than others, somewhat controlled, unlike the ubiquitous pariah dogs. As I discussed in "Shifting Desert Sands, Changing Desert Breds," the Saluki is the result of a cyclical process of inbreeding and outbreeding and that process worked on the genes for millennium to give us the wonderful, versatile hound we have today.

Knowledge of transhumance migrations, as well as the historical upheavals in Central Asia and the Middle East, the well established trade around the entire Mediterranean extending into China, India, Iran and all of Europe...all of this is the essential compliment to genetic research and necessary information to create the "big picture" Saluki world. In addition, in all indigenous environments dogs had work to do and this work, in the geographic region where they performed their jobs and lived, formed them: form follows function. This is how western people were able to pluck individual "prototypical" dogs out of their native regions and assign them the status of breeds. According to the Coppingers,

The modern trend is to ascribe breed status to the dogs of different ethnic groups, or national areas....Within new national boundaries or regions, hobbyists develop rationales

(and controversies) about which are the real, the pure, the original breeds. (p.125)

A breed, any breed, all breeds, based on my understanding of the interaction between culture, the needs of people for particular types of dogs to do particular kinds of work, permeable boundaries (open borders), this created a continuum of overlapping types. Focusing on Saluki type dogs, in conjunction with the chase, as the temperature increased

To preserve through education...... 29

structure became lighter, legs longer, bodies shorter and metabolism evolved to cope with running in high temperatures. However, nomadic hunters and later livestock herders moved from hot, dry desert regions to damper, colder steppe regions and the Salukis had to be able to cope with these changing conditions. In the geographic range that was historically considered indigenous for Salukis, there was certainly physical variation.

During the seasonal migrations came traditional types of contacts, hence migratory herders and settled villagers met periodically to "do business," developing a mutual interdependence. And their dogs surely met, as well. From antiquity until the end of the great migrations, there were infusions of herding dog blood into the Saluki gene pool and Saluki blood into the herding dog gene pool. Salukis needed more courage and sheep dogs needed more speed. In addition, the indigenous Saluki lands were crisscrossed for centuries upon centuries by warriors, traders, travelers...the ancient Greeks with their scent hounds, the Romans with their vertragis (progenitors of the greyhound), and eventually European Crusaders, Turks, colonials and modern military occupiers who brought with them a vast array of setters, pointers, spaniels, foxhounds and gun dogs of every size, shape and color. B.

Duggan in Saluki (2009) described hunt packs used by British military personnel stationed from Egypt to Syria in the early 1900s as "consisting of 'long dogs' (Salukis, Greyhounds, and sighthound crosses), pointers, foxhounds, and terriers. These mixed or bobbery packs would be used to hunt whatever presented itself for the chase..." (p.120). Sexual isolation was probably next to impossible in such environments, hence crosses of all sorts must have resulted, either random or purposeful, and those that survived and proved to be good workers were probably fed and put to work. These dogs certainly interacted with local dog populations everywhere with the same outcome: useful dogs were cared for. When troops moved on, some dogs were left behind.

Different selective pressures will shape dogs in different ways. The Coppingers (op.cit.) point out that all regional populations of dogs are subject to "periodic population catastrophes. Periodic epidemics are the rule in animal populations, not the exception" (p. 88). Hence epidemics of parvovirus, rabies, distemper, mange can reduce an entire regional population. This leads the Coppingers to propose that no natural breed of dog is very old. They suggest that

 frequencies are constantly changing, sometimes due to natural selection, sometimes due to artificial selection, and sometimes due to chance events. (p. 89)

The Coppingers reject the idea that any breed is ancient in the sense that it has been sexually isolated for centuries.

Since seasonal migration was an essential element in the process that created "the original Saluki," before we focus on some recent genetic research, a description of the great livestock migrations over centuries and centuries will give us "a feel" for the emergence of the livestock guarding breeds as well as our Salukis. These great biannual migrations involved millions of sheep, millions of livestock guardian dogs, and thousands of shepherds. Nomadic Bedouin had thousands of sheep, goats, camels, and horses. No one has estimated how many guard dogs and how many Salukis might have accompanied them, but there must have been significant numbers of both. And since all migrations have parallels, the Coppingers' description is applicable.

On every trip [migration] their dogs are capable of breeding with local dogs along the way. When they get to the high country they breed with shepherd dogs from other regions and other countries. Pups born in high pastures are sold or given to friends from other faraway places. A single dog's

genes thus can be spread along the trail and then, through the puppies, be transported to regions the parent dogs have never visited. And all of this can happen in a matter of months. In a single year, a single dog's genes can move thousands of miles. (p. 128)

The transhumance moved back and forth "over three continents in a thousand-mile-wide band from the western Mediterranean to somewhere in the Himalayas" leading to a mixing and remixing of dog populations for at least the past 4000 years. Migrations were arduous, natural selection relentless, hence mortality rates were high. Coppingers concluded that under such circumstances, "natural selection, human support, and culling produce regionally distinct dogs even though no one is actually breeding dogs" (p. 141).

Against this backdrop we will look at some recent genetic research. Previously cited, the research of vonHoldt et.al. (2010) not only addresses the origins of domestic dogs, but it explores the actual antiquity or modernity of breeds of dogs that are today recognized by the American Kennel Club. Blood samples were collected from 912 domestic dogs at AKC sanctioned dog shows, specialty events, breed clubs, and veterinary clinics. "Three-to-twelve dogs from each breed from each of 81 AKC recognized breeds and four semi-domestic

To preserve through education...... 33

lineages (Africanus, Canaan dog, dingo, and New Guinea singing dog) were used in the analysis"(p. 903). In their various analyses they found that dog breeds varied greatly in their genetic distance from wolves, with recent admixture in only a few breeds.

...most of these breeds (Basenji, Afghan hound, Samoyed, Saluki, Canaan dog, New Guinea singing Dingo, Chow Chow, Chinese Shar Pei, Akita, Alaskan malamute. Siberian husky, and American Eskimo dog) are highly divergent from other breeds.... highly These divergent breeds have been identified previously and termed "ancient" breeds (as opposed to modern) because, consistent with their high levels of divergence, historical information suggests most have ancient origins (>500 years ago). (p. 898)

The researchers refer to previous studies having defined three well-supported groups of highly divergent, ancient breeds: an Asian group, a Middle Eastern group, and a northern group. The Afghan hound and the Saluki are in the Middle Eastern group along with the Basenji, which appears to be one of the most ancient of dog breeds.

As they explored how the process of domestication selected for specific phenotypes, they found that the genetic

structure of dogs can be examined on three fundamental levels resulting from distinct evolutionary processes. For genetic analysis all dogs were assigned to a breed of origin which reflected "the limited number of founders, inbreeding and small effective population size characteristic of many breeds." (p. 901). On the next level of analysis breeds could be grouped based on form and function reflecting "the tendency of dog breeders to develop new breeds by crossing individuals within specific functional and phenotypic groups to enhance abilities such as retrieving and herding, or further develop specific morphological traits" (ibid). They comment on the fact that once a discrete mutation is fixed in a breed "it can readily be crossed into unrelated lineages and thus enhance the process of phenotypic diversification" (ibid). The final genetic structure level examined provided distinct results which are of great interest and importance to Saluki fanciers.

Last, we identify divergent lineages of dogs distinct from those breeds that radiated during the nineteenth century and that probably derive from ancient geographically indigenous breeds. This finding mirrors recent genetic discoveries in sheep and cattle and suggests that some canine lineages may have persisted from antiquity or have more recently admixed with wolves. (p. 901)

To preserve through education...... 35

The recent admixture with wolves is deemed improbable for most ancient breeds other than the divergent northern breeds. As already mentioned, Salukis are among the ancient breeds separated from other canids. Hence, scientific research "suggests that some canine lineages may have persisted from antiquity," precisely what all Saluki fanciers have believed to be the case, and now it appears that the DNA is supporting what we all see in the ancient images and artifacts---Salukis are indeed a most ancient of hounds.

This conclusion is further supported by the research of Larson et. al. (2012). The Larson study involved 1,375 dogs (representing 35 breeds) and 19 wolves and additionally combined their data with previously published data enabling them to contrast "the genetic signatures of 121 breeds with a worldwide archaeological assessment of the earliest dog remains" (p.1).

On the actual origin of the domestic dog, Larson et.al. conclude that "despite the volume of new data, the estimates of when, where, and how many times dogs were domesticated remains disconcertingly imprecise" (p.2). What has been identified, however, is several genetically divergent dog breeds in well-supported basal positions on phylogenetic trees. This early branching pattern has been used to designate these breeds

as "ancient." To avoid conflating genetic differentiation with presumed ancient heritage, we will instead refer to these lineages as "basal." (ibid)

The researchers compared classes or groups of dogs, which appear to have prehistoric roots and appear to be the basis for the development of distinct forms of dogs. They stress that modern breeding practices involving closed bloodlines and breed standards only emerged in the 19th century, and claims for antiquity (a long-term continuity) of modern breeds are based upon little or no historical or empirical evidence. In fact, recent historical records clearly demonstrate that most modern breeds experienced significant population fluctuations within the past 100 y. (ibid)

To test the assigned status of ancient or basal breed, both the genetic and zooarchaeological evidence was examined. The Larson et.al. study identified six breeds as basal: the Akita, Basenji, Eurasier, Finnish Spitz, Saluki, and Shar-Pei. Combining their results with two previous studies, the number of basal breeds increased to 16, with some questions about a few. They make the intriguing statement: "Despite the long history of human selection for specific dog forms, there is a major disconnect between truly ancient dogs and modern breeds" (p. 3).

To preserve through education...... 37

Larson et. al. explain this statement by examining the histories of "reconstructed" breeds such as the Irish Wolfhound and other breeds that either vanished completely or suffered significant bottlenecks such as the English mastiff, Sussex spaniel, Manchester terrier, Bernese Mountain dog, and Italian greyhound, to mention a few. All of these breeds were recreated by crossing numerous other breeds. They point out that

Interestingly, the recent genetic homogenization has occurred despite the increase in phenotypic disparity as breeders have simultaneously closed breeding lines and selected for extreme morphological traits. (ibid)

The history of the basal breeds the Finnish Spitz and the Shiba Inu is mentioned because these breeds suffered from a drastic reduction in numbers yet, despite being reconstructed, they retained their basal breed signature. The Shiba Inu was reconstructed after WW II. In the case of the Finnish Spitz, non-crossed dogs were collected from remote villages beginning in the late 1800s and bred from. The fact that the Finnish Spitz retains the basal genetic signature demonstrates that in the late 1800-early-1900s there remained some identifiable non-crossed individuals.

Larson et. al. also comment on the fact that all basal breeds have geographic origins in the Old World except the Alaskan malamute and suggest that this is likely due to the introduction of European breeds some 500 years ago and these breeds "overwhelmed the native lineages." They also comment, as did vonHoldt et.al (op.cit.), on the fact that "numerous widely geographically distributed dog populations share identical mutations responsible for specific phenotypes" and that it is unlikely that these mutations arose multiple times independently but rather imply "a significant degree of gene flow between breeds."

Returning to the genetic distinctiveness of basal signature breeds, genetic distinctiveness alone was not adequate for this classification. In contrast to the flow of mutations, Larson et. al. claim that "a lack of gene flow, or at least a lack of introgression with breeds that do not possess basal signatures" characterize the 14 [retained] basal dog lineages. These lineages, they claim, were either geographically or culturally isolated "from the primary center of dog breeding in Europe that began in the 19th century" (p. 5). They refer to these isolated dog populations as island populations, either physically or metaphorically, claiming that they retained their genetic integrity by avoiding amalgamation

To preserve through education...... 39

into the larger group of dogs that had lost its genetic distinctiveness.

Larson et. al conclude that the ever shrinking world, with dogs now present in every human habitable environment, will only further reduce the number of differentiated, isolated dog populations. They state that historically

Each time a lineage that had been evolving in isolation came into contact with introduced dogs, the resulting descendent admixture blurred the genetic signature, making it more difficult to deduce their origins before assimilation. (p.5)

They point out that basal dog lineages retain their distinctiveness mostly due to lack of admixture with amalgamated breeds from a wide variety of geographic regions and not because they more closely approximate the first domestic dogs. They reiterate that "no Central European breeds retain an ancient signature despite the ~ 15,000 y history of domestic dogs" (ibid).

The final study that we'll look at briefly, A.R. Boyko et. al. (2009) also had as its goal to pinpoint the site of the first domestication of the dog. This study analyzed mtDNA, microsatellite, and SNP markers from 318 village dogs from sites in Egypt, Uganda, and Namibia. In addition they analyzed

Puerto Rican street dogs, known mixed-breed dogs from the United States, "and several hundred dogs from 126 breeds, including 129 dogs from five African and Middle Eastern breeds to determine the degree of non-native admixture in African village dogs" (p. 13904). Five African or near-African breeds, noted with their supposed region of origin, were included among the 126 breeds: Afghan hounds (Sinai, Egypt); Basenjis (Congo); Pharaoh hounds (near Mediterranean); Rhodesian Ridgebacks (Zimbabwe); and Salukis (Iraq). They stress that "the distinction between indigenous and non-native dogs is important because indigenous, but not non-native village dogs, are likely to contain genetic variants that are not found in any of today's >400 recognized dogs breeds" (p. 13903). They actually found that heterozygosity was low in all of the breed dogs and high in all of the village dog populations except two isolated groups.

In trying to ascertain closeness of village dogs to founding populations for each of the five presumed African or Middle Eastern ancestry breeds they "differentiated three breed groups--Basenjis, Salukis/Afghan hounds, and Rhodesian Ridgebacks/Pharaoh hounds--while village dogs were clustered closer to the origin"(p. 13905). They found that

To preserve through education...... 41

Notably the village dog cluster still exhibited geographical structuring with Egyptian village dogs lying closest to the Saluki/Afghan hound cluster, indigenous Namibian and Ugandan dogs lying closest to the Basenji cluster, and breed-admixed Namibian and American dogs lying closest to the Rhodesian Ridgeback/Pharaoh hound cluster. (ibid)

A finding of great relevance to the Saluki with its long history of migrations is that with regard to the African village dogs, in all but two locations, "the lack of consistent levels of admixture within regions suggests that non-indigenous dog genes are quickly removed from village dog populations, or that admixture with non-indigenous dogs is a very recent phenomenon in these areas" (p. 13906). They also discovered that dispersal barriers, which could be physical or cultural, greatly affected population structure. Subjected to various levels of analysis, the results consistently showed that "Salukis, Afghan hounds, and Basenjis cluster with ancient, non-European breeds, while Pharaoh hounds and Rhodesian Ridgebacks do not" (p. 13907). Boyko et. al. concluded that

Indigenous dog populations can be largely eliminated, as in Puerto Rico and central Namibia, by European colonization, and it is unclear the degree to which other

populations will be able to maintain their genetic identity and persist in the face of modernity. (ibid)

This concludes the brief look at recent scientific research of interest and relevance to our breed: the "original" Saluki, the "pedigreed" Western Saluki, and the "modern" Middle Eastern Saluqi today.

Part III: Discussion

As Saluki lovers, whether our interest is in competition or the companionship of an "ancient" pet, a hound that we see reflecting a long-term continuity "from the beginning" of canis familiaris to the present, we need to understand the drastic cultural changes that have occurred in the lands and environments where the Saluki is indigenous and how these changes impact the entry of the modern eastern bred Saluqi into what appears to be the "ancient" gene pool of the modern western Saluki! As I noted in "Shifting Desert Sands," the vast majority of pictorial and anecdotal written history of the Saluki is to be found in the west; ironically, we may now wonder whether this is true for the genetic history of Salukis as well. This is the direct result of the drastic changes in the indigenous regions and the total disruption in the process that made the Saluki a breed distinct from other dogs from time immemorial.

To preserve through education....... 43

The process was "frozen" in the west in the late 1800 early 1900s with kennel club recognition of the breed and the beginning of registration and the stud book. The DNA research cited here was done using samples from western registered Salukis.

In the future the topic of phenotypic diversity in indigenous breeds can be explored in depth because it is highly relevant to the idea of "the original" Saluki. If heterozygosity is to be maintained so must the variation of types within the breed. This diversity is noted by researchers embedded in the lands where particular types of coursing hounds are traditionally found. This variation was typical everywhere that purpose-bred indigenous dog populations existed and was noted in the writings of the early English breed historian, the Honorable Florence Amherst. Referring to northern coursing hounds, T. Dubinina (2011) contrasts the attitudes of the traditional Kyrgyz hunters towards taigans with the attitudes of modern cynologists. She states that

Kyrgyz sighthounds in their home country are diverse phenotypically. Depending on the landscape and climate, hunters of different regions of Kyrgyzstan traditionally prefer a certain type of taigan. (p. 7) She mentions valley, mountain, and a great diversity of intermediate types noting that this has been the case for thousands of years. She refers to K.N. Plakhov who noted that "it is a specific feature of the aboriginal breed that it is hard to fit it into a single standard type; even littermate puppies may be very different in appearance" (p. 10). Dubinina observed that the indigenous taigan has "become really threatened since recent attempts to reshape it to fit into a straight-jacket of the European model of breed standard and to deny existing types" (p.8).

This echoes precisely the sentiment expressed by Saudi Arabian Sheikh Saud Al-Sowayel in an interview with E. Kissinger appearing in the Saluki Quarterly in 1979. Sheikh Al-Sowayel responded to a question about a Saluki breed standard: "Whose definitions? The Arab's definitions are not standardized. The definitions are basically unfair; it's unfair to specify by standard. There is no real advantage to this....Desireable characteristics vary from person to person....the rules of the game (standard) are not really what Salukis are about" (pp. 40-44).

What Dubinina (2011) described for the Kyrgyz taigan has already occurred in the traditional indigenous environments of the Saluki. Part I presented the great changes that have

To preserve through education...... 45

impacted the formerly nomadic Bedouin cultures and the Middle East generally. Focusing on eastern Saluki owners, as knowledge of western attitudes, ideals and dogs of all breeds has increased, so the impact of both western values and European/American bred dogs has increased dramatically. We all know of Saluki breeders who sold dogs to Middle Eastern people. Such sales have been documented since the 1950s, at least, to Bahrain and the Gulf region. Not long ago Iran was a cosmopolitan, western oriented country; Lebanon was a holiday destination for much of Europe; Syria was a country where Scandinavian employees of oil companies were based, some of them bringing their Salukis and whippets with them; a great influx of refugees from the Soviet-block countries arrived in Israel with their purebred dogs of all breeds; and Arab diplomats and students acquired Salukis and other breeds of dogs from numerous western countries and brought them home. The indigenous regions of the Saluki have experienced, particularly over the past 50 years, a great influx of foreign dog breeds

During this same period, along with the vanishing Bedouin went their accumulated-over-centuries cultural knowledge and traditions of the desert, livestock, and Saluki breeding. This has been replaced by a generally western

oriented approach to assessing purity of blood as well as conformation, the formation of kennel clubs and hosting dog shows throughout the Middle East, including Turkey. European breed-authorities are invited to judge the shows using breed standards written by westerners and afterwards are often invited to visit kennels and further evaluate the local Saluqis. The expert's comments are repeated when these "new" Middle Eastern Saluki fanciers assess their own and western Salukis, even those of direct Bedouin descent. The western show-bred Saluki appears to have become the new eastern ideal. Hence, everywhere there is a narrowing of the definition of what a "purebred" Saluki looks like, ironically often discarding vestiges of old nomadic breeding as primitive and therefore, not purebred.

A brief analogy to the Arabian horse of the Bedouin is relevant here. It certainly turns the clock of our imaginations back in time. Asil Arabians: the Noble Arabian Horse compiled by the Asil Club, G. Olms, 1993 is full of the romance of the desert, the Bedouin, and the impressions of western travellers from the 1700s on. The book is divided into topics such as "Pedigree, Truthfulness, Fanaticism for Purity of Blood" where we find the 1772 comments of Niebuhr: "It is well known that the Arabians attach great importance to their horses." He

To preserve through education...... 47

observed that the Arabians differentiate between horses of unknown descent and the "Koechlani or Koehejle" which are physically robust, capable of "living from the wind." Niebuhr commented that "they are neither beautiful nor large, but they are light-footed and are venerated so highly by the Arabians not for their outward appearance, but for their virtues and their race." He comments that pedigrees do not exist for hundreds of years but "they can nevertheless be quite sure of their descent because their mares are always covered in the presence of witnesses---Arabian witnesses, that is" (p. 46).

Extrapolating further from horse to hound, Ammon (1834) cites a traveller before him who noted that "As a matter of fact the Arabs attach little importance to conformation but a great deal to pure descent because this guarantees outstanding qualities" (p. 46). Ammon goes on to comment that

It is even said that the foal of a mare of different race by an Arabian sire is always more attractive-looking than those of pure blood, but the Arabs are not interested in such produce if they are not pure descent....They have learnt by experience that the more pure and unmixed the stock is from which the horse is bred the more surely and completely the horse will show the qualities originally peculiar to this

stock and the more certain it will be that he himself will reproduce these qualities. (ibid)

How remarkable that these legendary Arab horsemen did not confuse physical beauty with purity of descent. And these esteemed horses were subjected to the very same hardships of selection as were the Salukis. Wenzler (1977) states that "The Arabian horse with his much praised virtues, is a phenomenon of nature." He refers to an environment lacking in natural resources, the "wanderings" of people and livestock in search of food and water in a "murderous climate," claiming that these hardships were the most stringent test for survival.

No mercy is given in this struggle for life. Only the hardiest and the very best remained to pass on their inheritance. Thus, their hereditary disposition was purified and in addition condensed by very close inbreeding within individual strains which were often diminished by war. The Asil Arabian horse has developed in isolation secluded from the outside world. But this very seclusion has given him his prepotency and made him the regenerating force for all other horse breeds. (p. 84)

Finally a caution, serving horse and hound breeders alike. F.B. Klynstra (1978) warned that Remember: to breed only for beauty, to pander to aesthetics or even mere head-

To preserve through education...... 49

hunters, does not only risk degeneration---it enforces it. Breeding with just one objective in mind has always been accompanied by degeneration of the neglected factors. This applies to all breeding, not just horse breeding. (p. 714)

This same exact sentiment was expressed by the late Daniel Belkin, evolutionary biologist and Saluki enthusiast, in his oft quoted seminar given in June, 1993, at the Saluki Club of America specialty. Dan opened his talk with these words:

I want you to leave here with this idea: The things you cannot see are more important than things you can. There are many things about Salukis that a judge can't see and can't feel, and functionally, those things are more important than the visible and palpable ones.

Dan used the description of the Saluki's eye from the breed standard as his first illustration, stressing that the functioning eye is extremely complex. He talked about vision on various levels and concluded that

If all we are interested in is having beautiful, dark, almond-shaped eyes, that's fine, because our Salukis won't need them for anything but being pretty, but if we want them to retain something of what Salukis were originally bred for, then somehow or other we have to select for visual acuity. That's harder to do.

So, on all levels, beginning with the process that created "the original" Saluki, through the changing cultural values and options in the indigenous regions, to our own selection of breeding bloodlines that will retain the basal breed signature and at the same time produce a vibrant, functional, versatile, healthy Saluki....it seems that this is harder than ever to accomplish. Science has now affirmed our intuition, expressed so eloquently by the 10th century Iraqi poet Abu Nuwas, that our Salukis are not only fine hounds with no equal, but they are also genetically distinct, ancient, a continuity of DNA from antiquity to the present. Our task is to maintain this unique legacy.

Are we wise enough to see past the beautiful and preserve the precious and diverse gene pool that we have inherited through centuries of testing the Saluki in the crucible of the desert? This gene pool includes the last Saluki vestiges of the nomadic cultures contributing to western Saluki pedigrees through the 1980s. These last "desert bred" imports are invaluable for their closeness to "the original" lineages. Most of these later imports, many looking like littermates to western foundation stock, were never used, and those that were survive in today's pedigrees through alarmingly few descendants. Yet, what we have may be all that remains of that

To preserve through education...... 51

arduous journey from the beginning, through millions of miles of migrations over hundreds of centuries. Imagine riding that camel....will that camel carry us into a healthy and diverse future with our Salukis?

Part IV: Conclusion

Scientific research has discovered that the Saluki is a basal signature breed. DNA and zooarchaeological evidence places the Saluki in this small group of ancient breeds. According to Larson et. al. (2012) the Saluki (grouped with the Afghan hound) is the only sighthound to retain the basal breed signature. Though the Greyhound, Pharaoh Hound, Borzoi, Ibizan Hound, Irish Wolfhound, and Italian Greyhound are European breeds with deep histories, they do not sit in basal positions on phylogenetic trees. The Whippet has a known recent history of being a modern composite breed. The proposed reason for the unique status of basal signature breed is cultural, physical, or sexual isolation.

The Saluki has always been a valuable and esteemed hound. This is clear from the ancient images and the 10th century Arab hunting poetry that described not only the temperamental and physical characteristics of Salukis in beautiful detail, but its almost mythical prowess as a coursing

hound, chasing the quarry beyond the stars to bring it down. In addition, various proverbs and sayings, make it clear that the Saluki along with the war mare, was a true "daughter of the tent."

It was a process, however, that created the Saluki and not some encapsulated isolation. The Saluki that emerged from that process persisted in indigenous environments certainly through the early 1980s when several "tribal" imports reached the west. However, as the decades have passed, so the process in the indigenous regions has been irreparably disrupted and the concern is that the basal signature, the genetic identity of the original Saluki, has been swallowed up into that of amalgamated European breeds and only the modern eastern Saluqi remains.

Since the Saluki has been the companion and helper of nomadic tribal people for centuries, there has always been migration, interaction between tribes, and interaction between the nomad and the sedentary populations. Trade to the far reaches of the earth and back has characterized the entire region of the breed. History records thousands of years of war, colonization, and cross-cultural interaction between ruling elites from various regions from Egypt to the steppes of central

Asia. The rulers and warriors and their subjects were all hunters and all of them hunted with Salukis.

Since the Saluki has always been a "valuable" hound, its reproduction has also, at least to some extent, been controlled. The ancient Egyptian images of dogs often show them wearing collars. The collar is a means of control and dogs are pictured being walked on leashes. Ancient kings were reported to have kennels of hundreds of hunting dogs and huntsmen certainly monitored breeding. The 10th century Arabic hunting poetry repeatedly refers to straining at the lead. The Bedouin Salukis of the Sinai and Negev were seen belted around the loin, possibly a type of restraint. There is even an intriguing biblical reference to this practice in Proverbs 30: 29-31: "There are those who step in a good manner, four who walk stately: the lion, hero among animals, who turns away from nothing; that which is girded in the loins; the goat; and the king with an escort of soldiers." It is proposed that the reference is to the Saluki, girded in the loins. There is also modern reference to closing the vulva with wire or a safety pin. Iraqi Kurds put heavy coats covering the entire back of a bitch and mention of keeping bitches in covered holes in the ground during estrus are all means to control reproduction.

Hence, since, from the beginning the people with whom the Saluki has continually been associated were mobile, migratory, the Saluki was not physically isolated, though to some extent it was sexually isolated due to its great value. However, Boyko et.al. (op.cit.) stated that even if a basal signature breed had an admixture of a European breed, the admixture, or non-indigenous dog genes were quickly removed from the basal breed gene pool through the natural pressures of the environment. The genetic signature remained appropriate for the geographic region.

In other words, it is absolutely impossible and not at all feasible for Salukis that throughout history there were no admixtures of other breeds; some admixtures were probably also basal signature breeds, like the livestock guarding dogs, others probably of European origin breeds brought by traders or colonials. But as long as the process of migration, the interaction of the desert and the sown, and the re-entry into the desert was the rhythm of life for the nomadic hunter and hound, the Saluki remained "pure." This process, the cultural rhythm and the filter of natural selection, has disintegrated and the universal infusion of large numbers of European breeds into the indigenous regions of the Saluki makes it, ironically,

To preserve through education...... 55

questionable whether the eastern population of Salukis today still retains the basal genetic signature.

The irony is that by freezing the eastern gene pool with closed stud books, the western Saluki became isolated! And basal signature breeds, counterintuitively, have greater heterozygosity than modern breeds. Boyko et.al. (op.cit.) also pointed out, with regard to village dogs, that populations could vary. There could be village dogs that descended from nonnative dogs, dogs of intermediate ancestry, and indigenous dogs. It is the true indigenous dogs that have the genetic variants not found in the European breeds. We can extend this finding to Salukis and say that it is the true basal signature Saluki that has the genetic variants or heterozygosity that at least in part must account for our breed's physical variation and relative good health.

Today, according to Cole (2003), throughout the former regions of nomadic pastoralism, there is a growing concern with Bedouin heritage. Not only has Bedouin heritage become a field of study, but "Bedouin theme parks, camel races, museum exhibits, poetry recitals, and television talk-shows sustain continuation of Bedouin identity and honor it as part of national heritage" (p. 259). Objects from Bedouin material culture are being collected widely throughout the Arab world,

some entering museum collections where for older Bedouin they may bring back fond memories but for younger Bedouin and their sedentary compatriots "they are almost as foreign as they are to the foreigner" (p.257).

In some places, like the area of Petra in Jordan, tourism has "commoditized the image of the Bedouin." The expectations of tourists now, to some extent, define Bedouin identity. This seems to be what is happening with the Saluki in some regions, as well. We do see throughout the Middle East an increased interest in the Saluki. The Arabian Saluki Center "theme park" in the Gulf and the associated proliferation of rescue groups in Europe, Canada, and the USA attest to an ever increasing number of Saluqis in the east. Since the nomadic Bedouin are no more, the origin of these endless rescues is a puzzle. Luckily, ever ready "rescuers" have stepped in to help these cast-aways, some in tragic condition. Sad, so sad, for such a wonderful, noble, and once rare hound.

Finally, because it is relevant and I believe an analogy can be made with the current brokering of Salukis, T. Dubinina (2011) makes an amusing observation about taigans in their native land. She relates that traditionally a good dog is never shown to strangers, hence outsiders see only a few taigans at

To preserve through education...... 57

shows or mixes running loose in villages and assume that the breed is endangered.

Thus, the myth about the disappearing breed receives a boost and this benefits the commercial interests of its creators. However strange it may be and despite the so called catastrophic situation with the breed , puppies out of the last purebred taigans will always be offered for sale. (p. 9)

This seems to parallel the reports we receive from modern travelers and tourists and Saluki brokers. In some regions there are so many Saluqis they need to be "rescued" while in other regions we are told that the breed is vanishing. Nevertheless, as is the case with the taigan, a good broker can always secure a pure Saluqi from great hunting lines in an array of attractive and exotic colors....for the right price.

So, there you have it. The basal signature, ancient Saluki resides in the west, the product, ironically, of freezing the gene pool of the originals in closed studbooks adding only carefully evaluated (known history) post-foundation infusions of Middle Eastern imports. Salukis remain more heterozygous than the >400 European dog breeds. But this heterozygosity cannot promise good health "forever." Eventually, because our Salukis are no longer subjected to the relentless and unforgiving process of natural selection, our breed will

degenerate. What is of critical importance to understand, though it is counterintuitive, is that by "outcrossing" or cross-breeding we are actually reducing heterozygosity rather than maintaining it IF we outcross to a non-basal signature dog. In addition, the process that once removed non-native genes from the population is now compressed into as few as four generations when once it was four decades or four centuries. Hence, a longdog (Saluki x sighthound cross) may have first generation performance hybrid vigor, but the Saluki gene pool has actually been reduced. We also now know that the oft repeated statement "if it looks like a Saluki and runs like a Saluki it's a Saluki" is false.

Modern Saluqi breeding in the Middle East seems to remain, to a great extent, controlled, however the purpose of the breed has changed in many regions and the cultural construct, the classification of what is or is not a Saluqi, also varies from person to person, place to place and varies from the western definition of purebred Saluki. So, are there basal signature Salukis still to be found in indigenous regions? In some regions no, it is impossible. In other regions there certainly may be, but again, there is irony. The only access western fanciers have to these hounds, the products of the process, is through western-oriented brokers. Their goal is to

To preserve through education...... 59

sell dogs not preserve the original. The original, often primitive type, will be ignored due to lack of knowledge and understanding of "history" and the western demand for only the elegant and exotic. After all, who wants to ride a camel when they can ride a shiny classy colorful Harley-Davidson motorcycle?

So, it appears to me that the way to enhance western pedigree Saluki diversity, to maintain its heterozygosity, must come from wider utilization of our eastern imports of past decades because they still benefitted from the process that created the original. There were imports into Europe and the USA through the 1980s. There ARE diverse pedigrees in all western Saluki populations. It is my impression that for the most part, these genetic treasures were ignored when imported and the bloodlines incorporating them remain marginal. This lack of interest is a greater mistake today than ever before because there may be no replacements.

Where once we had a trustworthy source to revitalize our bloodlines, irreversible cultural changes in the indigenous regions have completely changed the equation. Once there was little concern over "history unknown;" now it seems that history is the essence! And YOU, Saluki lovers, must assess the validity of that history....past and present. We now know

that our western Salukis are unique, inside and out, from their DNA to their deep faithful farseeing eyes. The future of our breed depends on your choices.

References

Asil Club (1993) Asil Arabians, the Noble Arabian Horses. Hildesheim: Georg Olms.

Balgin, R (2012) Tazy of Almaty Province, Kazakhstan, Part II. Journal of the International Society for the Preservation of Primitive Aboriginal Dogs. No. 30, Feb. pp. 55-79.

Balgin, R (2011) Tazy of Almaty Province, Part I. Journal of the International Society for Preservation of Primitive Aboriginal Dogs. No. 27, June, pp. 18-25.

Belkin, D (1993) The functional Saluki--lessons from the coursing field. Saluki Club of America Newsletter, Spring, 1994.

Boyko, AR, et. al. (2009) Complex population structure in African village dogs and its implications for inferring dog domestication history. Proc Natl Acad Sci USA 106: 13903-13908.

Cole, DP (2003) Where Have the Bedouin Gone? Anthropological Quarterly, Vol. 76, No. 2, pp. 235-267.

To preserve through education...... 61

Cole, DP (1975) Nomads of the Nomads, the Al Murrah Bedouin of the Empty Quarter. Arlington Heights, II: AHM Publishing Corp.

Coppinger, R & L (2001) Dogs: a startling new understanding of canine origin, behavior and evolution. NY, NY: Scribner.

Dubinina, T (2011) Taigan: Myth and Reality. Journal of the International Society for Preservation of Primitive Aboriginal Dogs, No. 27, June, pp. 4-10.

Dubinina, T (2005) Living Legend of Tyan-Shan Mountains. Russian Primitive and Aboriginal Dog Society Newsletter, No. 7, pp. 2-5.

Duggan, BP (2009) Saluki, the Desert Hound and the English Travelers Who Brought it to the West. Jefferson, NC: McFarland & Co. Inc.

Findley, CV (2005) The Turks in World History. NY, NY: Oxford University Press.

Goodman, GD (2012) Shifting desert sands...changing desert breds. Classic Saluki World, Spring, pp. 34-41.

Kissinger, E (1979-80) The Desert Bred Saluki: Excerpts from an interview with Shaikh Saud Al-Sowayel, Oct. 1979. The Saluki Quarterly, Vol. 2, No. 1, pp. 40-45.

Larson, G et.al. (2012) Rethinking dog domestication by integrating genetics, archeology, and biogeography. PNAS Early Edition, pp. 1-6 www.pnas.org

Leonard, JA et.al (2006) From Wild Wolf to Domestic Dog. In ed. E. Ostrader, et. al., The Dog and Its Genome. Cold Spring Harbor, NY: Cold Spring Harbor Laboratory Press.

Plakhov, KN (2007) Cynological Conference in Almaty Kazakhstan Republic. Primitive and Aboriginal Dog Society Journal, No. 14, pp. 3-5.

VonHoldt, BM et.al. (2010) Genome-wide SNP and haplotype analysis reveal a rich history underlying dog domestication. Nature 464: 898-902.

Salukis in their natural habitat: some changes in breeding and hunting practices

Sir Terence Clark

UK

"Most of the bedouins who buy salukis are such hunters as amirs, other notables, and tribesmen of Slayb, a tribe of which we have already taken note more than once in this book.

Hunters in the villages adjoining the desert take up the task of raising and training salukis, and some of these are sold to amirs and other desert enthusiasts of the hunt."

The Bedouins and the Desert: Aspects of Nomadic Life in the Arab East, Jibrail S. Jabbur State University of New York Press, 1995, p. 185

It is clear from questions raised in Saluki circles in the West from time to time about the impact of societal changes in the Countries of Origin (COO) on indigenous Salukis that there are many misapprehensions about the nature and condition of raising Salukis and hunting with them in the region. This article is an attempt to put in perspective the situation which has obtained there over the last 30 years or so. I shall not go into the situation of similar hounds on the periphery of the

COO, such as in Central Asia, where the ruthless destruction by the Soviets of indigenous cultures has no parallel in the COO, as it is irrelevant.



Smooth Saluki in Iraq, 1987



This has been a period of great change in lifestyles as a result of wars, revolutions and technological advances. In particular, the Bedouin have been for the most part established in settled communities and have largely abandoned their former nomadic way of life. It is sometimes argued therefore that the Saluki of the desert is no more and its place in the continuing hunting communities has been taken by imports, not only from the region but also from the West and not only of Salukis but also other western breeds, thereby threatening the very genetic identity of the eastern Saluki. With the disappearance of the Bedouin and their knowledge of Saluki breeding, it is claimed, a western-oriented approach to assessing purity and conformation has taken hold along with the formation of kennel clubs and dog shows, judged by westerners to western standards. In sum, it is maintained that the western show-bred Saluki appears to have become the new eastern ideal! In brief, the question has been posed whether the COO Saluki is still the COO Saluki of yore.



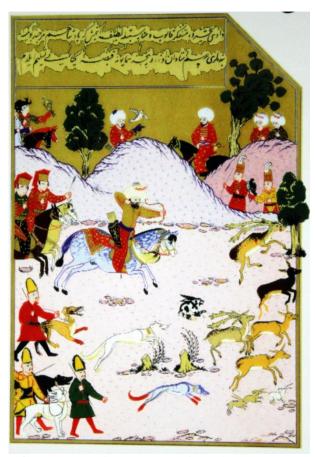
Bedouin encampment in Qatar by Klaus Ferdinand in 1959



Contemporary Salukis in Qatar

To preserve through education...... 67

However such argumentation about the effects of the disintegration of the "desert process" is based on a number of historical and contemporary fallacies. First, it overlooks the fact that since the earliest recorded existence of the Saluki, whether in the city states of Mesopotamia or in the riverain cities of Ancient Egypt, it has been bred as much by ruling elites as well as villagers and farmers in settled communities as by nomads in the desert. In such settled environments it has always been possible to exercise greater control over breeding than in the camps of nomads on migration. The medieval Arab sources, such as Kushajim's Al-Bayzara, describe the huge hunting establishments maintained by the Caliphs and tell us for example that the Abbasids were so keen on hunting that they demanded that the *kharaaj* or land tax be paid partly in the form of hunting animals, including Salukis, from all over their Empire.



Sultan Bayazid II out hunting - 15th century

The tradition of large-scale hunts was carried on by the Ottoman sultans as well as by the Persian shahs right up to the late 19th century. Farmers and villagers have similarly maintained appropriately smaller kennels. Sultans and peasants

To preserve through education...... 69

alike were motivated by hunting, whether for sport or simply for filling the pot. Similarly today, breeders are still motivated mainly by hunting in whatever form and their ideal hound is still the one that shows it can catch the prey quickly and effectively. Recent societal changes have not affected their attitude.

There is virtually no show culture in the COO, apart from in Israel, Turkey and to a very limited degree this century in the United Arab Emirates, and there are no kennel clubs with Saluki registries, apart from in Israel and Bahrain. So, the COO Saluki is free from many of the limitations of western-bred hounds.

I know of no evidence to sustain the claim that there is a universal infusion of large numbers of European breeds into the COO. On the contrary western imports are largely directed towards the Gulf and their numbers are easily dwarfed by the imports of Salukis from elsewhere in the COO. In any case, such admixtures would be quickly removed through the natural pressures of the environment (Boyko, AR, et al. (2009)).

Moreover, as any traveller to the Middle East can see, recent societal changes have not affected all parts of the COO uniformly, so that in many places the impact on the Saluki is hardly noticeable at all.

Breeding

In the past it was customary for a hunter to breed his best bitch to the best available dog in the locality. The choice would be made on the basis of hunting together and reputations within the local community. Sometimes a bitch would be mated with more than one sire to make the best use of the best genes and increase the chances of good hunting offspring. Nowadays the selection of mates in the small agricultural communities is still done largely in the old way but better communications have enabled breeders to extend their range and to draw on particularly good dogs even from some distance away. The larger kennels have of course more options for selecting breeding pairs.

However the greatest changes have occurred in the Arabian Peninsula where oil has brought huge riches to nearly all sectors of the population and has opened up for hunters the possibility of importing either mature hunting hounds or breed stock, mainly from other parts of the COO, particularly Syria and Turkey, but also from further afield, occasionally from Europe and America. The Internet and the electronic social media have made possible direct advertising of hounds to interested parties.

To preserve through education....... 71



Typical Syrian import in the UAE, 2012



"Kennel" in Syria, 2005



Syrian Saluki chained up, 1997

Dogs and bitches are normally kept together in the same compound, often secured to a wall by a chain for much of the day but with access to a fairly ramshackle kennel at night with sacking to sleep on. In the Gulf it is not unusual nowadays for Salukis to be kept in separate sandy pens around a central square where they are allowed out periodically for exercise. Often dozens of hounds are raised in this fashion under the day-to-day supervision of menial staff and the hounds often lack therefore socialization with their owners and other people.



Purpose-built kennel in al-Ain, UAE, 2012

Bitches in season are carefully protected from casual mating, usually by being shut away in an enclosure of some kind or occasionally by being fitted with an apron that covers their hind quarters.



Purpose-built kennel in Dubai, UAE, 2010

Once the bitch has been mated and there is no longer a risk of a further casual mating, she is allowed to continue hunting for a few more weeks.



Iraqi bitch with an apron, 1987

When she is ready to whelp, the owner puts her in a separate enclosure, often a small storeroom, where she may be provided with some sacking to lie on. She is then left alone to deal with the birth. Some puppies may be lost at this stage, as there are often few veterinary services available in case of difficulty or they are too expensive; and the owner is left to draw on his own practical experience. Litters are in any case generally small and it is not unusual for only a couple of the fittest survive. In the Gulf, veterinary services are more easily

available and basic treatments for worms and common diseases are now routinely given to puppies. The dam will be given some extra rations and a supplement of milk; otherwise she is expected to look after the puppies which are free to move about on the floor of the enclosure until they are ready for weaning, which may be as early as one month.



Storeroom in a Turkish village, 2009

If the birth is in winter, some puppies may die of cold; and conversely if in summer they may die of dehydration. Increasingly puppies may be vaccinated but common diseases also take their toll. A further hazard is the widespread practice in the Kurdish areas of cropping the ears of the puppies before their eyes are open.



Whelping pen in al-Ain, UAE, 2012



Puppies with already healed cropped ears in Turkey, 2009

Cropping may be limited to the tips of the ears or extend to the whole ear for a variety of reasons given as for speed, beauty, protection from damage in fights or from thorn

bushes, identification, etc. The resultant wound is open to infection.



Crop-eared male in Turkey, 2009



Red female with one ear cropped in Syria, 2002

Puppies are still given away to the owner of the sire or to someone who will repay the gift with a puppy or some other benefit at some other time. However increasingly puppies are being sold from the North to the Gulf area, where they can fetch very high prices. A puppy will fetch at least \$1,000 and a yearling around \$1,800. Mature hounds with a proven racing record will attract much higher prices. Occasionally Gulf Arabs may buy Western-bred Salukis but it is a big ask to expect them to adapt to local conditions and to make the transition from the show ring to hunting and racing in the desert and, in my experience, they often fail to make the grade.

Feeding

Except in the Gulf area and a few other places, where packaged dry foods are available, food consists largely of leftovers, including bones, from the owners' meals, with a high bread or rice content. Any meat is cooked since hunters believe that raw meat encourages the hounds to eat their prey. Food is usually given only once a day in the late afternoon. Puppies are given milk to wean them and to sustain them until they can eat more solid food.

To preserve through education...... 79



Puppy sitting in a basket of bread in Iran, 2005

Training

In the small rural communities puppies are allowed to run free around the place where they live but by the time they are about 10 months old they may be allowed to run with the older dogs when they are taken out for coursing. Puppies are usually kept on the leash except for one run but once they are about a year old they are reckoned to be ready for coursing regularly. The owners know their hounds intimately and expect obedience from them. Hounds that are disobedient in the field or eat their prey are rarely tolerated and may be punished or even put down.



Novice puppies in Syria, 1997



Mature hounds coursing in Syria, 2009





Salukis with camel train in Wadi Rum, Jordan in 2003



Arriving for the hunt by lorry in Syria, 2002



To the hunt by motorbike in Syria, 2005



Walking up in Syria, 2002





Bedouin trackers in Wadi Rum, Jordan, 2003

Where once it was normal for Salukis to be taken to the hunting grounds on the crupper of a horse or a camel or simply left to run alongside them the advent of the motorcar or pickup truck has made it possible for hunters to extend their range even into the remotest corner of the Empty Quarter.

being paid to training and preparation. In the early 1990s a racetrack was established in Al-Ain, Abu Dhabi for racing separately Greyhounds and Salukis. It was closed after a few years but the idea of racing Salukis was given fresh impetus in Abu Dhabi and Qatar about 10 years later using the already well-established form of camel racing as the model. Camel racing is done on a sandy track many kilometres long with rails on either side to stop the camels wandering. Salukis are raced on part of the same track over distances varying from 1 ½ km to 2 ½ km.



The blindfolded live gazelle, Abu Dhabi, UAE, 2011



The lure

They are first shown and can scent a live gazelle, which is then obscured from their sight and substituted by a stuffed gazelle suspended from a boom over the track from a vehicle which is driven on a road parallel with it.



The start



The winner

On a signal from the race marshal the handlers of the Salukis release their charges to run down the mainly straight track with possibly one gentle curve towards the end. Such races are now organised with hundreds of participants running in batches of 20 or more with the winners in each event going on to run in finals, with very valuable prizes for the ultimate winners.

Salukis are also being raced on live gazelle. These races are organised on an expanse of flat desert either on an individual basis, with just a few participants as a training exercise or just for fun, or they are proper competitions with lavish prizes for the winners. As hunting live game is banned,

To preserve through education...... 87

the Salukis may be muzzled or in any case they are not allowed to catch the gazelle. To prevent his happening, after about 2 km a vehicle cuts across between the gazelle and the leading Salukis, thus obscuring their view, which leads them to slow down. Meanwhile a vehicle runs close by the gazelle; someone leans out, grabs the gazelle by the horns and lifts it into the vehicle.



Muzzled Salukis in a training run in Abu Dhabi, UAE, by J Nagy

the offspring. For this reason many of the winners in recent years have evidenced the cropped ears of the typical Kurdish hounds. However some of the hunters are now breeding on from these imports, not least because of the difficulty of obtaining hounds from Syria in present circumstances and the high cost involved. One owner I visited has even imported a treadmill from Australia, to which, he said, his Salukis have adapted quite easily.



Imported crop-eared Salukis, Abu Dhabi, 2011



Puppies bred in the UAE from Syrian imports, al-Ain, Abu Dhabi, 2012



Dual treadmill imported from Australia, al-Ain, Abu Dhabi, 2012

Some Western observers of these new developments have been critical on the grounds that local owners are looking purely for speed and are less concerned with preserving the traditional qualities of their hounds for hunting all kinds of game over any terrain. This kind of criticism is misplaced. First the traditional game for Salukis in this region was gazelle before it was hunted with guns almost to extinction. Gazelle tend naturally to run in a straight line, reckoning on their speed to escape from danger. They start to jink only when they tire. So racing over a straight or slightly curved track is little different. Some Westerners have also opined that the element of racing as distinct from hunting will encourage local owners to crossbreed their Salukis with Greyhounds. It is true that there has been some experimentation with crossbreeding and some of these mixes have proved successful in the shorter races.



Crossbred Saluki x Greyhound in al-Ain, UAE, 2012

However the trend is towards longer races – some even talk of races over 4 km – and it has been shown that the mixes cannot compete here with the purebred Salukis. Moreover many of the owners still use their hounds for hunting other game in those countries where hunting is still allowed and the breed as a whole continues therefore to retain the qualities of the all-rounder.

Some critics also believe that the imports from distant areas are leading to a greater homogeneity of a breed previously known for its diversity. However the imports themselves come from a variety of sources and the gene pool will therefore still retain much wider diversity than the restricted gene pool in the West, controlled generally by closed

stud books. Although the scale of the influx of imports to the Gulf is possibly without precedent, the Saluki has always been open to the movement of hounds from different parts of the COO and it seems to have drawn strength from such diversity.



Solid black dog in Konya, Turkey, 2008



Blue dog in Sanandaj, Iran, 2005



Brindle bitch in Tehran, Iran, 2005



Brindle dog in Dhahran, Saudi Arabia, by M Ratcliffe, c.1994

Western critics are also concerned about the appearance of what for them are new colours, such as solid black, blue and brindle, which some have claimed are due to crossbreeding with Greyhounds. These colours are not new, though they tend to prevail in areas such as Turkey and Iran rather than Greater Syria, Palestine and Egypt, with which the founders of the breed in the West were more familiar. They often occur in places where it is unlikely that crossbreeding with Greyhounds might have occurred, simply because the local farmers and villagers have not had access to such an exotic breed, which in any case requires high maintenance. It is far more likely that the colours derive from crossbreeding in the past with other Sighthounds or shepherd dogs in much the same way as the

Saluki has been historically crossed with the Canaan Dog in the Levant or, according to al-Jahiz in *Kitab al-Hayawan*, with Kurdish sheepdogs. Through the export of northern Salukis to the Gulf, it is probable that these colours will become more familiar in this area.

I have also noticed a distinct increase in the number of smooth hounds over feathereds. Nowhere are the hounds heavily feathered, but even in Turkey in areas where previously feathereds predominated, it is now quite common to see smooths. In Syria too feathereds have become quite rare. It is hard to say why, but it may have something to do with easier modern conditions for keeping the hounds through the winter in these more northerly areas or with the greater popularity of smooths for the new vogue of racing in the Gulf. The smooth gene is of course dominant.



Feathered dog in Urfa, Turkey, 2009



Smooth bitch in Konya, SW Anatolia, 2008



Winter coat in Syria, 2009

The outlook for the future

The increasing difficulty for people today to find opportunities for hunting with Salukis in a natural environment is encouraging the younger generation to find new ways of employing the breed which they admire and which holds a special place in their history and tradition. In falconry, another traditional form of hunting in the region, hunters are already resorting to such novel methods as flying their birds at electronic remote-controlled lures or lures suspended from driven motor vehicles. Electronically controlled robots are also replacing boy jockeys in camel racing.



Robot jockey in Dubai, 2006

 crossing their Salukis with Greyhounds to achieve a dog that was very fast but good for only one course; whereas traditionally their hounds were expected to be capable of running repeatedly in the course of a day and over several days. The Arabian type of Saluki was becoming almost extinct in much of the Gulf region and it is still quite rare.



Typical Arabian Peninsula Saluki, Anbak, Saudi Arabia, 1992

However the serious hunters and now the younger generation of racers have recognized the superior suitability of the Saluki for their conditions and it is once again flourishing, perhaps even on a greater scale than at any period since the Middle Ages. In the past the Bedouin may have had one or two hounds as pot-fillers for the family. Today, some of the leading

shaikhs have huge kennels (one shaikh in Dubai told me he had "around 300") and the Saluki enjoys a popularity it has not known for centuries. The downside of this popularity is that more people in the Gulf are owning Salukis in urban environments, with the inevitable increase in the number of strays.



Indigenous Saluki in the UAE, 2013

Conclusion

As I have said, some Westerners fear that all the societal changes in the region will somehow impact on the indigenous Saluki and result in fundamentally altered characteristics, since it will no longer be formed by life in the desert. Some even argue that the only original type of Saluki will be that in the West, since it has been bred for a century in a

To preserve through education......101

generally closed environment. I have already alluded to some of the changes which have occurred and to which the Saluki appears to be adapting without any noticeable difference in its characteristics. I have also shown that it is fanciful to imagine that the Saluki has been formed over millennia purely by desert conditions, since history records its long existence in settled communities, often in kennels in large numbers rather on the scale of the kennels of some of the Gulf shaikhs today. It is true that the nomads have been largely settled but many of them still live on the fringes of the desert with their livestock, including Salukis; whereas the life style of hunters in the small towns and villages across the region continues much as before and they have no reason to change the way they breed and raise hounds fit for purpose. In the final analysis, form follows function and the function of the Saluki in the region continues to be hunting in one form or another. Its integrity as the coursing hound of the East is not in doubt. Furthermore, the emphasis now being given in the Gulf states to preserving all aspects of the traditional way of life, including the Saluki, augurs well for the continuity of the breed.

Primitive Aboriginal Dogs Society

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