



The Story of the Noble Mares of the Katharinenhof

Breeding with Criteria

By HANS J. NAGEL

THE SEARCH FOR MY ARABIAN HORSES

It took years, until I finally felt sure to have found the right way to breed Arabian horses successfully. It took so much time, because there are so many opinions and very vague theories about the origin, the authentic type and the correct features of this horse, creating a lot of confusions for any newcomer, including myself. However, so many surprising things happened during my life, which helped me to understand this horse better and better. In the end it was easy for me to find the proper answers to the following two questions:

- 1, Which of the Arabians among so many different types will finally be my favourite one?
2. Which breeding concept fits to such a horse which was created in another environment and originated from a culture different from the one in Europe.



Lady Anne Blunt's Sherifa, one of her finest paintings.



Saviez



Syrian Arabians as presented to the WAHO committee.

The first surprise happened in the 60ies, when my work as one of the very early European experts in modern poultry breeding brought me to Hungary and by chance directly into the State Stud Babolna. After arrival, as I walked around in this Stud, I found out unexpectedly that I was staying in the middle of one of the oldest breeding Studs for Arabians in Europe. It happened that from this first visit on, I worked with Babolna for 30 years. During the day I installed a huge poultry operation and in the early mornings and in the evenings, I was occupied with their Arabian horses. During this period, it was decided that Babolna's breeding should be clearly split into two sections: from then on one section concerned pure-bred Arabians only, the second one exclusively Shagya-Arabians (before registered under part-bred Arabian). All in all, I had a lot of time to become fully acquainted with Arabian horse breeding in this Stud from early history until our days. This was my first and decisive step and deep encounter with the great ambiance and the mystery, which is surrounding this Arabian horse.

The second surprise followed only a few years later, I had to travel to Cairo following an invitation from the Ministry of Agriculture in Egypt to advise them in poultry production as well, but this time on a national scale. My Egyptian counterpart was a very likable person, Dr. Ameen Zaher, Deputy Minister of Agriculture. At this time, he acted also as the breeding advisor of the "El Zahraa Arabian Horse Stud" near Cairo. It did not take long, when he discovered my interest in Arabians and so he invited me, with a group of important visitors from the US, to visit their world-famous Arabian Stud.

About the same time a German writer, Mrs. Erika Schiele, published her book "Araber in Europa"; A very interesting comprehensive document about breeding efforts with Arabians in different European countries. Most of her attention was given to breeders in England, Poland, to the State Stud Babolna in Hungary and Germany. I recall that I have studied and read this book again and again. I was mostly interested to look at the photographs and pictures of the Arabian horses as kept in each country, the typical English Crabbet Park Horses, the Polish Arabians in the Stud of Janov Podlaski or the German Arabians kept by a few private breeders and the Arabian Stud of Marbach Württemberg and finally the ones in Spain; they all looked different, each of them had some of their own particularities.

Arabians bred in Syria and purchased at the end of the 19th century for the Eastern European Studs.



Naturally I discovered some horses in this book, which became my favourites, but when I arrived at the El Zahraa Stud, everything of what I had seen before in this book got wiped out of my mind. In complete admiration I looked at the fine mares, wandering around in the surrounding paddocks and when some of them were presented by Egyptian grooms together with several stallions to this visitor group. I was totally taken by their elegance and refinement. As I returned later to my hotel and started thinking in quietness about what I had seen on that day. I concluded, that this type of Arabian would be my final choice. I doubted I would ever find better ones anywhere else in the future. These impressions of this first visit became decisive moments, which stayed in my memory until today.

Due to my work with Dr. Zaher and due to the existence of these Egyptian Arabians, Egypt became a very dear country to me and each time, when I was on my way to Egypt, I was very excited to meet again the people I was working with in the different activities and what I could accomplish with them in the coming visit. Dr. Zaher allowed me to move around in total liberty, particularly at the El Zahraa Stud. All its personnel in the office or in the stable were very helpful and open minded in answering all my many questions, which I considered to be very important for my future planning and they gave me, without asking, even a lot of additional information. Having studied the qualities of the various mare families, in this way I had the courage to chosen and to buy my first three fillies. The other four fillies followed later.

Then it happened that I was elected Chairman of the German Arab Horse Society (VZAP) and stayed in this position for more than 20 years. One of the most exciting and very serious duties was the licensing event for the three-year-old stallions, which took place each year in the Frankfurt area. About 100 or even 130 young stallions were presented to be judged for approval of breeding or to be rejected. In my capacity as chairman of a five-member-committee, it was sometimes very hard to come to a correct justified decision, particularly when a decision for refusal had to be made. This refusal rate was very high: in average 65 % of the horses were not approved and 35% were accepted. Most of the owners liked their horses and the refusal for breeding was a great disappointment for them. Whatever happened, I have seen on these yearly occasions several hundreds of Arabian

stallions, partly bred in Germany, or imported from Poland, from Egypt, from Russia, from the US, from Spain and from England. There existed no better informative occasions as to see such chosen samples of all important Arabian populations in different countries and to compare them with each other, to discover their highlights, but also the less appreciated features in each group. After each of these events I was asking myself, was I right in my judgements and what did I learn for myself by comparing in my mind the best judged stallion with my own horses at home; mostly I came to a positive answer, but sometimes I also found out, which possible improvements my horses still needed.

Only to mention, I have also spent about ten years serving as a judge in different Arabian horse shows in several countries. After a while I felt this is a boring job, full of repetitions and not very attractive for me. In fact, it was not a challenge at all, when I compared this show-judging with the very professional evaluation applied in the stallion licensing event.

And finally, in the early 80ies the WAHO (World Arabian Horse Organisation) was already well-established with more than 40 countries as WAHO members, when I was invited to be a member of its Executive Committee and later chosen as its President. I was very hesitant in accepting this position. My interest was to enjoy my Arabians, to care for them, to breed them and to improve them. And not to spend my time in meetings, to organize, to set up rules and regulations or to control and supervise publishing. But finally, I saw that a lot of positive works could still be done and accepted these duties.

It happened at this time, that the Arab countries came into the focus of WAHO. I found out later, WAHO wanted me to join them, because I was very familiar with the countries in this region and in fact, in my new capacity I pushed the above project strongly forward. In a General Assembly, it was then decided to offer to these countries the possibility to establish a National Stud Book and to register all those Arabians, which were still in the hands of breeders in that country. Each country had the chance, to propose, which of their horses should be a candidate for registration and a committee of WAHO was then sent to check and to confirm or to refuse their choice. As a member of the committee for Iraq and later as the chairman of another committee for Syria, I have thrown each time all my interest and curiosity into this project, knowing the importance of these countries in history. Both countries, Syria, and Iraq, were those ones, which were heavily visited in the late 19th century by private people, by merchants or by governmental organisations, to choose and to buy Arabians as root stock for the most important Studs in Europe. But also, the idea to try to save the Arabians in these countries as a heritage, which could be a positive addition to the Arabian horse population worldwide, was a good reason to make such an effort and work with these countries.

I have seen in each country between 500 and 1000 horses in several different visits. In Iraq a relatively small fraction of the presented horses were accepted, only about 180 stallions and mares; in Syria the choice was a little bit more generous, maybe too generous. Knowing pictures and photos from Arabians imported 100 years before, by example the ones chosen by Lady Ann Blunt for her Crabbet Park Stud in England, the ones Babolna Stud imported at that time or those ones, which were chosen by the already famous Polish breeders in the 18th and 19th century, I had a perfect chance to compare such early imports with those ones, which were now presented in front of me. The answer is it was

still about the same type. The mares, 150 cm or less, the stallions usually much taller. The small ones had mostly a heavy belly and were longer in the back; Their bones were relatively thick, a lot of them had wide flat hooves and all had a straight or even convex bold head. The taller ones were more slender, shorter, had a better neck, but their head shape was similar. Very seldom I saw a more refined horse, and when this happened, it was mostly flea-bitten grey. Never I saw a head-shape like the ones bred in Egypt. However, it was a surprise to note that most of them had a perfect Arabian high tail-carriage, showed a powerful movement and had very nice black eyes. Indeed, in our times about 100 years later and after maybe 15 generations, the European Arabians of today look totally different from those early imports; the effort in selecting, crossing, and breeding only the better ones have made a huge difference between past and present. From these visits originates my conclusion that two types of Arabians existed: a Northern type and a Southern type, the northern Arabians in larger populations bred on rich lands close to the Euphrates and Tigris River, the southern Arabians bred as desert horses in the Arabian Peninsula surviving with the Bedouins and existing only in limited small numbers due to the poor geographic-ecological ambience.

BACK TO EGYPT

As well known, the Egyptian horses in El Zahraa, at least the major percentage, were brought in the later 19th century from the Arabian Peninsula to Egypt. Abbas Pasha, the Viceroy of Egypt, and some of his later relatives were the greatest collectors and buyers at that time. These early breeders searched from the very beginning for a certain type of horses, which was apparently only available in this Peninsula and bred by the Bedouin tribes, who migrated following the seasons through these territories.

As already mentioned, these Arabians in Egypt looked totally different from what I had seen during my different travels in the Middle East as Syria, Iraq, Saudi Arabia and even Iran or when I made the inspections on behalf of WAHO in these countries. But this population in El Zahraa was also different from the ones bred in the Babolna Stud, different from those in Crabbet Park, even when a lot of their horses were brought from Egypt to this Stud, but as known, later crossed with Syrian



A Saudi Arabian mare belonging to their special breeding program for local Arabians.



The best head of an Arabian mare in Iraq Photographed in 1989.



imports, and they were also different from the Polish ones, which originated mostly from the already existing older studs established by the old Polish aristocracy.

Egypt had an Arabian population which had its own typical look. From Dr. Zaher I learned to know as well, that two types of Arabians were bred and available in El Zahraa since the early 50ies. The old traditional ones, going back to Abbas Pascha breeding, and a taller solid type, a bit less refined and bred to satisfy the horse-racing community in Egypt; at least this was the original idea why to bring additional stallions. I was discussing at length with Dr. Zaher, which of the horses in the Stud he would order into the first group and which ones would belong to the second. One could find out these differences by checking their pedigree, but by the time I was also able to see this difference just by looking at their features. No doubt I was totally committed to the first group. To my surprise in the years to come the later following Egyptian Stud Directors have given up this separation and bred the two groups together as one population.

Why do these Egyptian Arabians or at least most of them have only very little in common with those Arabians I saw and judged in Saudi Arabia? I was keen to find out if these Egyptian types still existed somewhere in the Arabian Peninsula, both belonging to the same homeland and once bred in this area. The "Saudi State Stud Dirabh" near Riyadh had made great effort to collect the best of the original Arabians in their country and started a breeding programme exclusively with such horses. But when

The two root mares **Hanan** and **Lotfeia** in their old age, both over 20 years old.





Jamil (Madkour I x Hanan)

comparing these carefully chosen ones with the best local ones in Iraq or Syria, there was no doubt they all were in principle still of the same type; no similarity with the Egyptians at all.

In the 19th century the Egyptians must have been taken away, first as ransom during the “Wahabit War” or later by private initiative, the best of the horses bred by the Bedouins and emptied the country to a great extent. This gap was filled up again later by imports from the north. It is interesting that one can read in the report of the Austrian / Hungarian expedition around 1900 the same remark; They could not find any horses different from those in Syria or Iraq, when they searched for Arabians in the south of Palestine and even further south in the direction to the Arabian Peninsula; they made the same observation and came to the above conclusion as I did, however about 100 years earlier.

In seeing and judging all these Arabians during the travelling years, I became more and more confident, that I had made the right decision to choose my root mares out of the El Zahraa population. It resumed however the challenge, that this would be the suitable breeding concept in considering historical facts and modern breeding knowledge as well.

Therefore, one must start to think from the very beginning of the creation of this type of southern

Arabians in the Stud of the King of Württemberg, Germany (around 1875).



Painting by E. Volkers.



Painting by V. Adam.

Arabians must decide in the end for a very particular breeding programme, which would recognize traditions and beliefs, data and conditions as set and dictated by nature, and by finally applying all advanced knowledge in animal breeding.

A NEW MODERN BREEDING CONCEPT

There is today a common understanding that the cradle of the Arabian horse is the Arabian Peninsula or more specific, the poor and mostly desert like regions in the centre of this half-island, called "The Nejd".

When about 500 AD a lighter horse type from the North, from Iraq over the Caspian Bridge, entered the Arabian Peninsula, this country was horse empty. Further on, two vital conditions were existing. Firstly, a relatively good geographical isolation and secondly nearly no contact with other existing horse breeds. Such an isolation could be only offered by the Arabian Peninsula in comparison with other Arab countries in the northern region. Thirdly, a particular breed has only a good chance to emerge as a relative homogeneous population, when their number is somehow limited. The poorness of most of the territories in the Arabian Peninsula never allowed a huge population of thousands of horses as it existed in the north of Arabia. Bedouins in the south owned only little numbers in their tribes; it is said that around 1880 only 500 Arabian horses were kept by the Bedouins roaming in the Nejd region and surroundings. It was finally in the 18/19 century, when these remote territories of the Arabian Peninsula opened to the West, when only a few adventurous and curious travellers had the courage to enter these dangerous regions and to encounter those desert people.

Even when this Peninsula was the country, where the world's second most important religion, the Islam, emerged, it remained closed for western culture for centuries. Neither the Romans before, nor the later Middle Eastern dynasties, and not even the Ottoman Kingdom showed interest to extend their political influence further south. Their southern borders were these territories, highly life-unfriendly and only suitable for a nomadic way of life. These Bedouins, refusing any political power over them, strongly guided by their traditions only, very independent, and unable to read and to write,



An Arabian mare in the palace garden of the Pasha, painted by v. Mayr during his visit in Egypt, accompanying the King of Bavaria in the late 19th century.

migrated constantly as a nomadic population by following the seasons which offered them the needed pasture for their animals. They kept their own horses away from other breeds due to their pride and possessiveness concerning their horses, which they believed to be superior to any other breed.

The inner region of this Arabian Peninsula was the Bedouin country for thousands of years. These Bedouins were the authentic breeders of the Arabian horse and their first owners.

It happened in the 19th century, when the first travellers discovered the existence of this breed. It is interesting to know, each one of them mentioned these fine horses in their books or in records, some in general only, others in detail. However, in the end remained only a few ones, which were competent enough in horse affairs and which could be chosen as reliable witnesses in this respect.

These were:

The emissaries of Abbas Pasha, the Viceroy of Egypt

Mr. Palgrave, an Englishman

Lady Ann Blunt, an English Lady



Adnan (Salaa El Dine x Ghazala)



NK Nasrin (Adnan x Nashua)

The Abbas Pasha's views are documented in his famous "Abbas Pasha Manuscript". His emissaries, who searched for him for the best Arabian horses, travelled to the Bedouin tribes living in the Peninsula, but also appeared in the north of Syria, since many Bedouin tribes left the Peninsula due to a big drought in the early 19th century and settled with their goods and horses in the north. In this even sometimes confusing manuscript one can find valuable information about the Bedouins and their knowledge about their horses, their origin, their genealogy, and the way, they were bred. Mr. Palgrave travelled under the cover of a medical doctor from Palestine to Riyadh and gave the best detailed report and description of the Arabian as he saw them at that time in the stables of the Great Sheikh in Riyadh. He described them as follows, with a convincing accuracy, as the noblest creature to be in Arabia; these were the Southern type of Arabian horses.

".... I had never seen or imagined so lovely a collection. Their statue was indeed somewhat low; I do not think that any came fully up to fifteen hands; fourteen appeared to me about their average; but they were so exquisitely well shaped that want of greater size seemed hardly, if at all, a defect. Remarkably full in the haunches, with a shoulder of a slope so elegant as to make one, in the words of an Arab poet, "go raving mad about it:" a little, a very little, saddle-backed, just the curve which indicates springiness without any weakness; a head broad above, and tapering down to a nose fine enough to verify the phrase "drinking from a pint-pot, "



NK Nadirah (Adnan x Nashua)

did print-pots exist in Nejd; a most intelligent and yet a singularly gentle look, full eye, shape thorn-like little ear, legs fore and hind that seemed as if made of hammered iron, so clean and yet so well twisted with sinew; a neat round hoof, just the requisite for hard ground; the tail set on or rather thrown out at a perfect arch; coats smooth, shining, and light; the mane long, but not overgrown or heavy; and an air and step that seemed to say "look at me, am I not pretty?" (W. G. Palgrave, 1867-68).

Lady Ann Blunt and her husband reached the town of Hail in the north of the Peninsula as travellers and from the experience of this visit, she drew in detail a most impressive painting, showing a typical Arabian mare from this region with a very nice attractive Arabian head. She eventually obtained this mare and named her "Sherifa".

It was only Abbas Pasha, who owned and bred Arabians, which he had brought from the Arabian Peninsula to Egypt in a greater number. So became his stables at that time the only important and very famous source of the "pure-bred Egyptian Arabians" as they are named today. His amazing collection in and around Cairo and his breeding efforts made it possible, that such fine horses could be obtained by European breeders and found their way into the stable of the King of Württemberg, of King Victor Emanuele II in Italy and into the Stud of Saint-Cloud, founded by King Louis Philippe II of France.

It was the artists and painters Victor Adam, Emil Volkers, von Mayr and Carl Vernet, all familiar with these two famous royal Studs mentioned above, who have shown the posterity, how these Arabians looked like, either in Egypt (von Mayr) or when they have reached their new homes in Europe (Volkers / V. Adam). To portray famous Arabian horses was a fine luxury in Europe at that time and a valuable documentation about Arabians in history. A great number of these fantastic paintings are now in the hand of some dedicated collectors.

Around 1914 the Egyptian RAS (Royal Agricultural Society), later on followed by the EAO, collected the remains of the Abbas Pasha horses and also the ones of his followers with the intention to preserve them as a valuable heritage, a type of an Arabian horse with remarkable features and different from all other Arabian horse populations. "El Zahraa Stud" in Cairo finally became their home.

All my further search ended in this Egyptian Stud and it remained a pleasant time to find out which were the best mares and stallions within this exceptional population particular about the mares, which were the parentage of my first three chosen fillies.

In addition, a very particular breeding concept for this acquired Arabians should be designed, which will be inspired and orientated on what could be learned from the history of this breed.

1. Such a horse population of Arabians could develop only in a relatively well isolated territory, also with a limited number of horses.
2. As for today, one would replace such a former situation by deciding to breed these Arabians as a "closed population" and a limited number of families.

In its history this breed lived in a very poor environment, their country was not able to nourish a great number of livestock. In times of peace and war, in the south the camel was always the biggest group followed by sheep and goats and finally the horses, only in a low number. Besides the poor living conditions, one could look also concerning limitation into the following circumstances: concerning the fact that on one hand the total horse population of the Bedouin breeders in the Peninsula was relatively small, and that on the other hand so many strains and sub-strains of horses existed, which stood for a certain population and which breeders claimed to own, one could conclude that each of these populations must have been composed of a very limited number of horses. Whatever, it needs this limited number, staying as a one-horse population together, that the rate of homozygosis in the south population could eventually increase and many horses of similar type would appear.

Consequently, for now, one has to decide to start such a programme also with only a limited number of horses as a rootstock of the Stud.

In the past the nature was the strongest selection power on the horses following the principle of "the survival of the fittest", clearing up at the same time the population from weaknesses of all kinds then followed during the long course of time, the men who were the second ones to pick up all recessive undesirable characteristics, which had shown up.

Today the men are the first and the only ones, who decide what to keep and what to select according to their best knowledge about breeding and horsemanship. But they should keep in mind that the Arabian horse is a heritage from another culture and must not lose its exotic flair.



Salaa El Dine (Ansata Halim Shah x Hanan)



Nabhan (NK Nadeer x NK Nerham)

The Katharinenhof breeding programme is consequently built on these three principles:

A closed population.

A limited number of females. Three or four mare families and one sire line, about 25 – 30 horses in total.

To save the Arabian as a heritage and not to change it into another type of horse.

In combining these three requirements in one programme, a great chance is given to create a very typical Arabian with a fascinating historical background.

THE NOBLE MARES

NK Katharinenhof's Arabian broodmares are of a very particular and unique quality. Each one of them is a member of a carefully elaborated long-term breeding concept, which is worldwide the only one in its very special selection method, its application, and its newly developed monitoring procedures. Therefore, no other mares are existing worldwide which are comparable to them. This concept is built on the following detailed facts:

On a closed population, which has been under a severe selection pressure for 40 years. In total it is composed of about 25 breeding horses. They are ordered into 4 different mare families. Each of these mare families has certain characteristics which make them different from each other. These characteristics are positive ones, each one is adding value to the whole population. These mares are bred to stallions, which belong to one and the same stallion line, the one of Nazeer. He and his

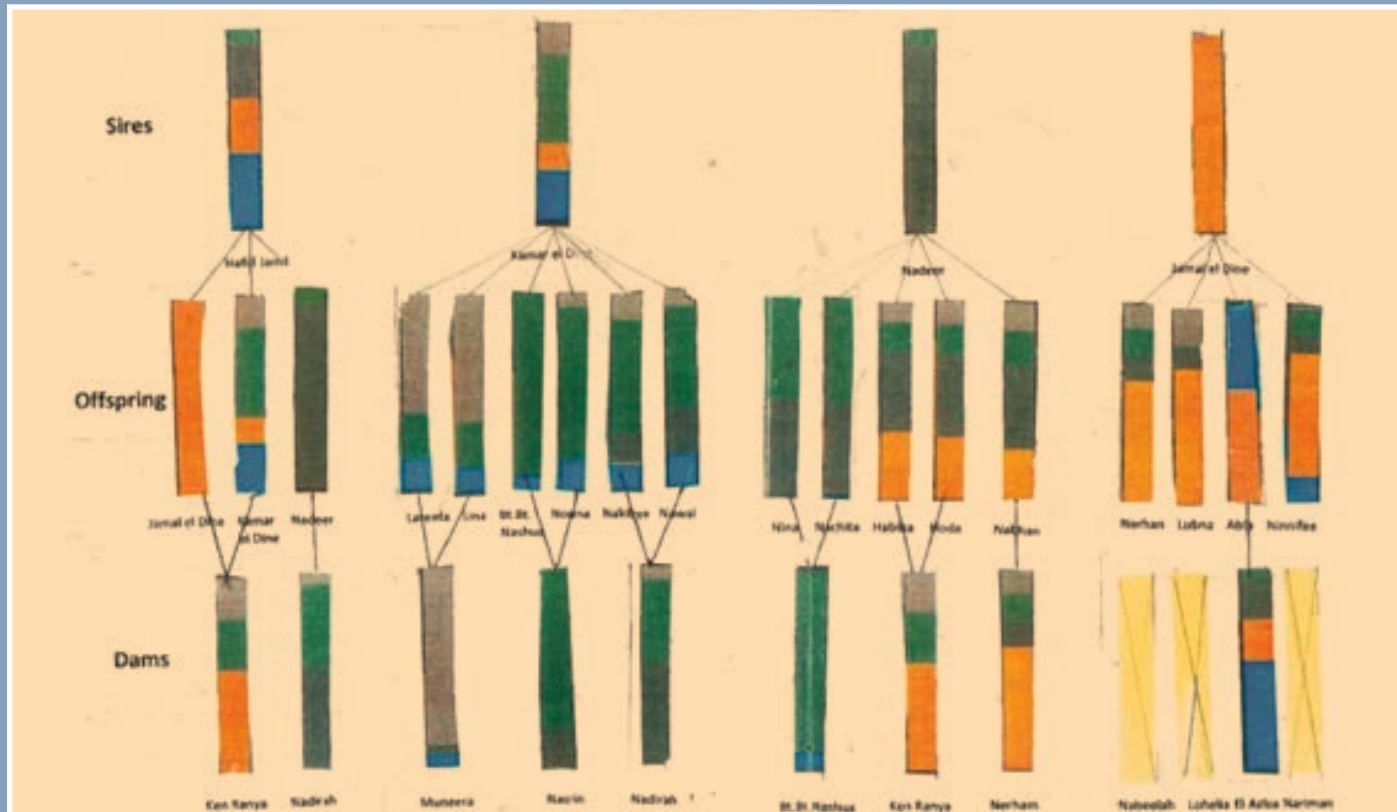
famous sons have created the high reputation of the Egyptian Arabians since 1960. All of them, mares and stallions trace back to the El Zahraa Arabian Horse Stud in Egypt.

The beginning of the stud goes back to the 60's when 7 carefully selected yearling fillies were imported from Egypt. They were chosen from such families, which had proven to be very important and essential for the success of the El Zahraa Stud in the past. When these fillies were grown up and became brood mares, each one of them had to bring 3 – 4 foals which were used for evaluation of their breeding value (progeny testing). This method of testing is imperative in such a program. Only three of these fillies fulfilled all the necessary requirements and became root mares of the Katharinenhof Stud. The fourth required root mare was added later.

On the paternal side, only one stallion from Egypt, Alaa El Dine by Nazeer as the sire of the three imported fillies and in Europe, two sires Ibn Galal and Mohafez were involved in this program.

After these three fillies were finally chosen as root mares, the stallions Madkour I, Ghazal and Ansata Halim Shah from the US were used for breeding. Only these ones became part of Katharinenhof's breeding program, and not any stallions of other existing Egyptian sire lines.

To be able to make such decisions, a testing period of 15 years has passed to collect enough results in Germany besides the others already taken in the El Zahraa Stud before choosing the fillies. It was very essential that all the unwanted characteristics and features had to be detected and if possible, removed during this time, either for constitutional or health reasons. Since then, only stallions and mares bred by Katharinenhof itself have been introduced into the breeding stock.



The above scheme shows the parental relations between some of the important NK Arabians within the breeding concept, based on DNA analysis.

In cooperation with the University of Göttingen and later with the University of Florida under the guidance of Prof. Samantha Brooks, the development of the herd was studied in detail mainly by investigating the speed of increasing homozygosis over a period of 20 years and establishing its status in that year of testing. At the same time the studies focused on the genetic imprint of each Arabian in the Stud, showing the influence of the ancestors (parental relations) on each horse, and allowing to determine the prevailing ones. Further studies on similar topics are in preparation. It is felt that by applying such a narrow breeding concept, such knowledge as a kind of monitoring is very essential and necessary.

The decision for a closed population was triggered by the fact, that a certain type of breeding and even inbreeding was applied in history on many occasions by the Bedouin breeders and that the horse population in the Peninsula was small and limited. Several Bedouin tribes were known as famous horse breeders and they were very keen on their own breed, guarded it with great jealousy and kept it away from other breeding stock.

It is an interesting fact, when looking to a single Bedouin family or a tribe, which such a family belongs to, that they all lived also in a closed society and were used to such a narrow family system.

Finally, under these conditions in the Middle East, in the Peninsula, in the South the Arabian breed emerged. It is a great challenge to choose such historical data in a breeding concept. An Arabian horse corresponding to such a concept can be characterized by these five following features: a very light constitution, an overall dryness, a triangular noble head, a high tail carriage and a firm mental and docile disposition. The selection procedure for these features should be also strictly controlled following today's scientific knowledge. By time and after several generations, a population with a high increased homozygosis is bound to show up and consequently similar offspring of a well proven quality will appear.

The respective mare families at Katharinenhof have until now produced four to six generations under this closed concept. From each generation, those mares were selected for further testing which corresponded to the required overall quality. The measurement of such quality is not one and the same standard, it considers as well the type, which characterizes each of the four families.

The prevailing mating in this herd follows the principle of breeding "equal to equal". Since four families are involved, inbreeding as generally specified is not applied. In addition, attention is paid to the fact that certain differences in type and conformation remain; such a variation is required to give room in order that new and interesting characteristics and features could show up in the future. All the above principles apply for the mare- and stallion candidates.

This breeding concept could be carried out until today without any mayor setbacks. Even the contrary is true, a high percentage of good typical foals were born in each season; certainly, a result because the choice of the four foundation mares originating from the Egyptian El Zahraa Stud was carried out with great care.



A few years before a good friend of mine made a list of all foals which were born in Katharinenhof since the beginning. The figure came to a total of 450 foals, 221 females and 229 males. Considering some later mortality about 200 registered females carry the blood of these four families, which originally came from Egypt. Only 70 of them were in the course of time a part of Katharinenhof's concept and they will be bred further on in this well-considered and controlled concept as a closed population. The remaining ones of about 130 fillies went into the hands of other breeders. Some remained in Germany; the majority made their career in major studs in the Middle East.

Looking at the stallion side, a dramatically high selection rate was applied. Only twelve stallions out of all the born ones within 50 years, showed the quality and the features, as the commonly wanted ones and those particularly required by Katharinenhof. Ten further stallions of about equal quality, as Safir in Qatar, NK Qaswarah in Kuwait or Mubarak in Iran, were sold to other studs. The remaining ones became pleasure or riding horses, and it is interesting to note that their new owners found out very quickly that they had acquired Arabians with an outstanding gentle behavior, a perfect proof that the selection for a good disposition has positively worked.



This comparatively small breeding population, in comparison to so many bigger ones, is now bringing the Stud into the direction to work with a more and more equal population and to become a source of very fine Arabians with a high degree of homozygosis. This is expressed by the fact that these horses have preserved their light and elegant type of their ancestors, which were grown for generations in another culture, in another environment, in the south of Saudi Arabia.

These four families, each composed of three to six mares as an average in former years, have been constantly improved by always adding the better ones of a new generation, replacing the older ones as they passed away. In addition, each family could maintain, during all these years, its own particularities although the relative mares and stallions have been closely bred together and were crossed with each other. This indicates that a lot of room is left to create and to bring forward again and again for a long time, elegant Arabians.

This process will continue, paying high attention that only healthy Arabians and those of the finest type are prevailing in such a limited closed population.

CONCLUSION

All what was experienced and learned during those years of searching, studying and later, when operating the stud, has shown the vital importance of the brood mares concerning their quality, however, also the variation between the different four families has proven to be a vital factor.

It is common that a breeder chose the best suitable stallion for his mares to improve his breeding, wherever he can find him and by applying today's breeding techniques (artificial insemination) without any geographical limits. Katharinenhof's choice of stallion, however, depends to a much higher degree on its brood mares, the most logic procedure when one considers the following:

Due to Katharinenhof's already long-lasting closed concept, a stallion from any other source is a stranger. The rule of breeding "equal to equal" has created such traits and features, which are already strongly fixed in the whole breeding herd. An outside stallion, however, originates from a totally different parentage. Only progeny testing and a serious comprehensive health examination would give proper evidence about his possible qualification, and above all, it makes only sense to use such an outsider, when he is able to bring elements into the population, which might still be missing and are additionally required. Such a situation is, under the given circumstances, neither prevailing, nor realistic considering Katharinenhof's stallion quality in the past.

This fact explains immediately why it is preferable that Katharinenhof breeds its own stallions. The variation between the families gives enough room that further improvements are feasible. In addition, in Katharinenhof's population are all positive traits available, distributed between four families, which makes an Arabian a beautiful and docile horse. It is knowledge and a bit of luck to choose those stallions born by an appropriate mare, which can increase the value of the population. Salaa El Dine, NK Hafid Jamil and NK Nabhan are eloquent examples as stallions of such quality.

In Bedouin times, these people must have collected during hundreds of years of breeding, a lot of experience. Their daily life gave them more than enough time to observe and to share opinions between them, possibly again and again the same subjects. They must have noticed the immense importance and value of their mares in the breeding process. It is therefore not an expression of great simplicity, it must be much more than that, namely that the genealogy of their Arabians is only based on the mare's side. Stallions were nowhere recorded neither in oral traditions or in any written records and when they were mentioned, only as sons of a certain mother's strain.

In fact, all this makes sense when a breed lives in a certain isolation as it happened in the Arabian Peninsula.

When the RAS collected its root mares for the Stud around 1920, they chose 14 mares, but only 8 of them succeeded to create their own family and became a solid part of El Zahraa's long-time population. To breed these Arabians as a "heritage" was the official purpose.

Until 1930, for 15 years, the brood mare band was increased to 35 mares and grew later under very knowledgeable care up to 70 mares. This was around the year 1960. It was a closed and limited population until this time. El Zahraa's most famous mares and stallions were born during this period.

Then, and already several years before, in a second period, other stallions were introduced, and the number of mares was in a short time drastically increased. The population grew to more than 100 mares and doubled later to over 200. El Zahraa's Arabians began to look different compared with the ones of earlier times. That this would happen, should have been expected. In other words, with the opening for other stallions and giving up a well-considered limitation, the population lost its moderate homogeneous status and finally became a heterogeneous one. This makes it now not easy to breed a sufficient percentage of Arabians with a particular distinguished look. However, most of the scientists think different. They go for heterozygosis; it guarantees the existence of a breed. Katharinenhof's Arabians connect directly to El Zahraa's breeding activities during its first period. This concerns the chosen breeding stock as well as explained in this study and it also applies to the concept: to form a closed and limited population and to continue with such concept from then on. Consequently, the NK Arabian breeding herd remained in this respect a "heritage", an adequate preservation of this amazing Arabian breed as it had emerged in the Arabian Peninsula, bred by the Bedouin tribes, and enjoying the reputation to be the most noble horse breed amongst all the others world-wide.



LITERATURE

Blunt, Lady Anne, *A pilgrimage to the Nejd*, London 1851

Palgrave, W. Gifford, *Reise in Arabien*, Dyk, Leipzig 1867

The Abbas Pasha Manuscript, 1800 - 1880
Ansata Publications Mena Arkansas 1993

Löffler, Eduard, *Die Österreichische Pferdeeinkaufs-Kommission*, Schreibers Buchhandlung 1860,
Reprint Olms Presse Hildesheim 1978

Chevaux et cavaliers arabes, Institut du Monde Arab,
Edition Gallimard Paris 2002

Zaher, Dr. Ameen, *Arabian Horse Breeding and the Arabians of America*, Cairo, University Press 1964

The Egyptian Agricultural Organisation (EAO)
The Arabian Stud Book Vol. II,
Cairo 1966

The Egyptian Agricultural Organisation (EAO)
formerly Royal Agricultural Society (RAS)
Arab Horse Breeding Administration
El Zahra Arab Horse Stud
EAO S. B. Vol. I - Second edition Cairo 1983

H. J. Nagel, *The Arabian Horse, Natures Creation and the Art of Breeding*, Italy 2013



NK Arabians
Nagels Katharinenhof
Am Gräberfeld 15
26197 Grossenkneten , Germany

Tel. home: 00 49 44 33/13 56
Tel. office: 00 49 44 33/15 35
E-Mail: office@nagels-arabianstud.de

