

Use of the Saker and other Large Falcons in Middle East Falconry

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ABSTRACT

The development of specialty veterinary hospitals for falcons in the Arabian peninsula has improved the standard of falconry and vastly improved the health and survival of the birds. To understand the status of large falcons (Saker and Gyrfalcon) used in the Middle East, interviews were conducted with falcon merchants from two principle source countries. Syrian trappers supplied 80 Sakers (60 female, 20 male) compared to 300 previously. Smaller numbers trapped were thought due to a developing export trade from Turkey (150-200). Pakistan marketed approximately 1,700 Sakers (300 males). Annual numbers have remained constant although the numbers of trappers and locations have increased since 1980. Of the 1,700, 300 were marketed in Kuwait and Qatar; 200 in U.A.E.; and 100 each in Saudi Arabia and Bahrain. The remainder were purchased directly in Pakistan by individuals. Saker Falcons admitted by the Dubai Falcon Hospital and the Abu Dhabi Falcon Research Hospital (434 and 956 respectively) reflect the popularity of the sport. Immature-adult ratios (1.1:1 and 1.8:1 respectively) and female-male ratios (1.7:1 and 18.7:1 respectively) differed between the two hospitals. Gyrfalcons have been limited to a few captive-raised individuals and are regarded as useless by most falconers. Practices which affect the status of Sakers are discussed.

INTRODUCTION

Sakers and other large falcon species have been trained in falconry for centuries in the Middle East. Historically, the practice was sustained by the ability to provide supplemental meat for a meagre subsistence diet. Today, falconry is a pervasive cultural thread woven through the Arab fabric, from bedouins acquainted with the austerity of the desert to wealthy urban dwellers seeking communion with the past. Subsistence hunting is no longer required; however, cultural constraints and customs continue to dictate the practice of falconry as a pragmatic sport (Platt & Remple 1988). The practice of modern Arab falconry, including sources of falcons and estimates on numbers employed in the region, have been previously reported (Platt & Remple 1988).

Because the region is removed from usual scientific information networks, there is particular interest in acquiring new and up-to-date information on falconry in Arabia. Interviews were conducted with trappers, dealers and falconers to provide information on the origins and numbers of the large falcons utilised. Annual visits to falcon markets provided information on the arrival, condition and disease status of imported falcons, and trends in numbers and species involved.

The development of two specialty veterinary hospitals (Dubai 1983, Abu Dhabi 1985) for the care of the hunting falcons of the ruling families and citizens of the United Arab Emirates, has upgraded the practice of falconry in the region. They have provided comprehensive medical and surgical care for the falcons, and have served as a base for the exchange of information and ideas. Falconer-veterinarians and staff, themselves master falconers, provided insight into modern western veterinary medicine, falcon husbandry practices, and emphasized the value of preventive medicine. Arab falconers have also been introduced to new concepts in physical conditioning and nutrition, and have been exposed to other falconry practices, equipment and philosophies.

Detailed hospital records were maintained throughout the period. They allowed tabulation of patient population demographics, and diseases and injuries were analysed to determine trends in the health and survivability of the falcons. Evolving attitudes and changes in the use of the resource were also considered. This paper intends an objective discussion on present day use of the large falcons, notably the Saker, Gyrfalcon and Peregrine Falcon in the Arabian Peninsula.

SOURCES AND DISTRIBUTION OF FALCONS

Before the acquisition of oil wealth in the region all falcons were trapped locally. It is now possible for many more falcons to be utilised in hunting, thus a flourishing trade in wild-caught falcons has developed in a number of countries surrounding the Arabian Peninsula. Small numbers of falcons continue to be trapped locally along the coastlines and islands of the Arabian Gulf countries (primarily Peregrines). Additional Peregrines and Sakers are trapped along the northern Saudi Coast of the Red Sea, Eastern Province of Saudi Arabia, and Bahrain (Platt 1988). Additional trapping occurs along the mountain ridges near Taif. Few Peregrines are retained for training in Saudi Arabia.

Large numbers of Sakers (300), and Peregrines (60), were shipped annually from Syria to Gulf countries in the early 1980s (Abu Ali, pers. comm.). Syrian exports presently number 60 Sakers (40 female, 20 male) and 30 Peregrines annually. A larger number are sold to individual falconers and small dealers in Syrian hawk markets. Dealers and trappers implicate a developing export trade in falcons trapped in Turkey as being responsible for a decline in the number of falcons in the Syrian trade. It was estimated that Turkey is now supplying from 150-200 Sakers annually.

The largest number of falcons come from Pakistan, 2,000 annually (Zaman, pers. comm.). Of those 1,700 were Sakers and 300 were Peregrines. Of the 1,700 Sakers less than 300 (18%) were males. Only a "small percentage were adults". "Many of the adult falcons were re-trapped Arab birds", having survived at least six months since release. They were identifiable as re-traps by having old needle holes in their lower eyelids (a custom known as seeling), or by scale wear on their tarsi from Arab jesses. Several falconers reported locating one of their Pakistan-released falcons in the possession of another falconer several years later. Many falcons which were previously identified with permanent implantable microchips by the Dubai Falcon Hospital were later found in hawk markets or were identified as freshly trapped birds from Pakistan.

Trapping locations in Pakistan include areas adjacent to the Afghanistan, China and Indian borders where topographical and prey species features serve to concentrate migrating falcons. Other major trapping areas include the Punjab and coastal margins along the Arabian Sea. "During the past 18 years the numbers of trappers and trapping stations have increased markedly, while the annual harvest has remained constant or increased".

The majority of trapped falcons are marketed to hawk dealers in the Arabian Peninsula, with the remainder being sold in Pakistan. Of the 1,700 Sakers exported from Pakistan, 300 each were destined for Kuwaiti and Qatari markets for redistribution to other Gulf countries. The United Arab Emirates received 200, and Saudi Arabia and Bahrain each received 100. The remaining 700 Sakers were purchased by falconers in markets in Pakistan. Prices have increased by 30-35% over those quoted ten years ago (Platt 1988).

Falcons trapped in Iran, Afghanistan, Egypt, Iraq, Morocco and Libya also contribute to the supply of birds for falconry. Large numbers are thought to come from Iran, while the numbers from Morocco and Iraq are thought to be negligible. Substantial numbers of Peregrines are trapped in Libya and marketed in Egypt and Syria.

Captive-raised falcons are increasingly being offered for sale in Gulf coast countries by private

breeders in Europe and America. During the past seven years, captive-raised falcons admitted to the Abu Dhabi Falcon Research Hospital (ADFRH) have accounted for 53 hybrid falcons, 12 Peregrines, 5 Sakers, and 9 Gyrfalcons. Eighteen captive-raised falcons were seen in 1991-92. During the same period (1991-92) the Dubai Falcon Hospital (DFH) admitted 40 captive-raised falcons, most of which were Gyrfalcon hybrids. All of the Gyrfalcons seen in the United Arab Emirates since 1983 have been raised in captivity.

USE AND DISPOSITION

Observations of falconry practices over the past nine years have revealed some basic changes in training techniques and patterns of use. In the early years, falconers preferred the use of hatch year (HY) falcons for hunting flights, limiting the use of captive moulted adults (AHY) to that of "spotter" birds. These experienced falcons were allowed to sight or locate the quarry, then were quickly hooded to allow a hunting falcon to be released. Since physical conditioning for endurance flights was not practiced, captive moulted falcons were weak, and were regarded as inferior to the recently captured juvenile (Rample 1988). Today, most captive falcons retained for moulting are thoroughly and effectively conditioned by endurance training methods which prepare them for use as primary hunters. Among many falconers, some with large collections, these birds are now the preferred hunter. In other collections, many previously moulted birds are given their freedom after one or two years of service. In Abu Dhabi there has been an increase of 220% in the number of falcons retained for moulting. Some individuals have increased the number of moulted birds by more than 350% since 1975 (Allen 1980).

Females, due to their larger size, are preferred over males, especially when hunting the Houbara Bustard. However there is disparity in the use of males and females (females cost from seven to ten times more than males) depending on the availability of appropriate quarry and the relative wealth of the falconers in different countries. Therefore in Qatar, female male ratios are 3:1 (al Timimi, pers. comm.). In Abu Dhabi the ADFRH documents a female male ratio of 18:1. By contrast the DFH documents a ratio of 3.5:1. Male Sakers are used much like Peregrines in hunting rabbits and Stone Curlews.

Other differences are noted. Whereas falconers generally prefer the easier trained HY birds over wild-caught adults, up to 5% of newly trapped falcons seen in the ADFRH were AHY birds. In Dubai a smaller number of wild-caught adults is seen and their use has been strongly discouraged.

The use of radio telemetry is widely accepted by Arab falconers. However, its use differs from western falconry, i.e. transmitters are not routinely used during training sessions, flights at released quarry or casual hunting of rabbits and Stone Curlews. As a consequence, birds are frequently lost and, because the use of telemetry in no way insures the recovery of a hunting falcon, many birds are lost during the season. Attrition in this manner may amount to 15%.

Favourite hunting falcons are increasingly being retained for moulting. Moulting facilities are characteristically large, well constructed rooms with open or subdivided housing space having sand floors. They may be cooled and ventilated by elaborate wind towers, large screened windows, or air conditioning. Falcons are most commonly moulted on the block; however, housing designs are changing, and in Dubai the trend is to free loft most birds during the moult. Some collections in the region contain as many as 200 communally moulted Sakers housed in mammoth free-flight enclosures. Most are fed a diet of *coturnix* quail and pigeon.

A number of captive breeding facilities continue to retain favourite or outstanding specimens for breeding.

Arab falconers have historically released large numbers of falcons following the end of the hunting season (Allen 1980; Platt 1988; Rample 1988). They are released in good flesh following 2-4 weeks rest with full rations. Release sites are in the desert, mountains and coastal regions of the Arabian Peninsula or, more commonly, in the Cholistan Desert in Pakistan. Numbers released in the normal migratory range vary from a few birds by some individuals to 60-70% of large collections. Some of the sheikhs and princes keep more than 200 hunting falcons through the hunting season and the annual release of more than a hundred birds is a common tradition (Slaytor, pers. comm.). Individual birds are released from time to time throughout the year as undesirable

or unhealthy specimens.

MEDICAL CARE

With the exceptions noted previously, the falcon hospitals in the United Arab Emirates document many similarities in the use of large falcons and the numbers employed. The hospitals attract clientele from virtually all of the countries of the region, but in small numbers from all but the Emirates.

Dubai Falcon Hospital

The Dubai Falcon Hospital (DFH), established in 1983 by H.H. Sheikh Hamdan bin Rashid Al Maktoum, has experienced wide-spread acceptance of modern veterinary medical care and has increased its services and realised many of the stated goals (Remple 1988). The hospital is centrally located within metropolitan Dubai, and is only a short drive from Sharjah. The hospital has a peak capacity of 60 patients. Computerised medical record keeping and the use of microchip implants identified 988 different falcons during the 1991-92 season which generated over 10,000 clinical visits (10 visits per falcon), up from an average of three visits per falcon several years ago. At the same time the patient population has increased considerably. The increase is due to familiarity with and acceptance of the veterinary services provided rather than an increase in the numbers of falcons employed in the region.

The total number of falcons seen over the past two years (1990-91, 1991-92) averaged 889. Saker Falcons averaged 444. Immature/adult ratios were 1.25:1. Female/male ratios were 4.75:1. Peregrine Falcons averaged 368. Immature/adult ratios were 3.5:1. Female-male ratios were 2.7:1. Other falcon species averaged 75.

Abu Dhabi Falcon Research Hospital

The Abu Dhabi Falcon Research Hospital was established in 1985 under the sponsorship of the President of the United Arab Emirates and Ruler of Abu Dhabi, H.H. Sheikh Zayed bin Sultan al Nahyan.

The hospital is located in a sparsely populated area midway between Al Ain and the capital Abu Dhabi, 88km to the west. The hospital has a capacity of 84 in-patients. Medical and surgical services are provided free of charge. A more detailed description of the facility design, operation and admissions summary for the ADFRH has been described (Riddle *et al.* 1992).

The ADFRH has experienced an increase in clinical cases from 506 in 1985 to more than 3,000 in 1992. The total number of individual falcons seen over the past two years (1990-91, 1991-92) averaged a minimum of 1,350. Saker Falcons averaged 702. Immature/adult ratios were 1.25:1. Female-male ratios were 18:1.

Peregrine Falcons averaged 553. Immature/adult ratios were 3.1:1. Female-male ratios were 24:1. Other falcon species averaged 81. Hybrids and captive-raised Peregrines and Gyrfalcons averaged 14.

Hospitalised cases amounted to a cumulative 15,208 in-patient days annually (average 41.6 falcons/day).

The ADFRH also provides additional veterinary services during hunting trips in the desert. Two well-equipped field hospitals provide medical and surgical care totalling 200 to 300 cases during each of two periods in the fall and winter months.

Stress is a primary factor in the cause of many diseases encountered in the hunting falcons of the UAE (Remple 1988). Composite stressors (psychological, physical, nutritional and environmental) weaken the immune system, leading to the development of disease. Stress-related diseases include coccidiosis, avian pox, aspergillosis, air sacculitis and associated complications from air sac worms of the genus *Serratospicula*. A falcon wasting disease of unknown etiology (possibly viral) is thought directly related to stress.

Although the use of the weighing balance for managing the weight of hunting falcons is now quite common in the UAE, many birds continue to be flown in lean condition, and most remain subject to prolonged and significant stress. Nevertheless most of the stress-related diseases are

treatable by supportive measures. An exception is aspergillosis, in which virtually all of the cases result in death (some cases have been successfully treated by both hospitals). The incidence of aspergillosis varies from 5-10%. Air sacculitis and complications from serratospicula infection respond poorly to treatment. Although mortality is low, chronic respiratory disease results in profound and irreversible dyspnea. Most other frequently encountered diseases present a brighter prognosis. Bumblefoot may be treated conservatively by instituting changes in husbandry practices, while employing topical preparations and protective bandages. In complicated cases surgical procedures and foot casting provide a 90-95% cure rate. Bumblefoot surgery averaged 80 falcons per year in the two hospitals (7%). Mortality as a percentage of all cases was 8.6%. An estimated total mortality of 20% included birds which were deemed hopeless but were released to the wild by owner; treatment or hospitalisation was refused; or the patient was discharged prematurely from hospital by the owner. The severity of such cases assured a terminal outcome.

CONCLUSION

Falconry in the Arabian Peninsula is steeped in tradition but is not resistant to change. Improved falconry standards are evident throughout the region. Improvement has been sorely needed, as man and new-found knowledge emerged from the primitive past. Significant accomplishments are investments in falcon housing and quail production facilities, commitment to captive breeding and the development of new programmes, and the establishment of ultra-modern veterinary hospitals which are committed to research in addition to patient service and client education. The use of the weighing balance, improved falconry equipment, radiotelemetry and endurance conditioning of moulted falcons are additional changes which have conservation dividends. An emerging association with captive-bred falcons and the hunting success obtained by some individuals foretell a greater emphasis on these birds as experience is gained in the future.

Acceptance of modern western veterinary medicine, at first slow, has now proceeded apace with the acceptance of other emerging medical and biological disciplines. It is no longer common to encounter "firing" or "branding" scars on the heads, beaks and limbs of trained falcons, as was practiced only recently in traditional folk medicine. Sal ammoniac is increasingly shunned as a cathartic to condition fat falcons following the moult.

Problems remain with some falconers, due to a lack of dedication or stewardship, and proper concern for the health and needs of their falcons. However some educated and youthful sheikhs and devotees are demonstrating skill and vision in their pursuit of falconry. Peer pressure by role-models such as these are producing encouraging signs.

Saudi Arabia has two large regional falcon hospitals in the planning stages, promising specialty care for hunting falcons in that country (Slaytor, Algalth, pers. comm.).

These are important changes in Arab falconry considering the large numbers of falcons utilised in the Arabian peninsula. Estimates of the total number of falcons utilised are commonly quoted as 3,000, with yearly replacements for dead, lost or released birds estimated at 2,000. Our impression is that those figures should be adjusted upwards based on current information supplied by dealers, knowledgeable falconers and patient demographic data obtained by the falcon hospitals in the UAE and Qatar. A minimum of 2,750 new replacements are supplied each year, principally from Pakistan. An unknown number of falcons are trapped in Saudi Arabia annually, and total numbers maintained in falconry are difficult to assess. An increasing number of falcons are being retained for moulting; indeed, in some countries falcons are no longer released at the end of the season but are moulted by the original falconer or are passed on to others. For this reason it is estimated that total numbers of falcons retained for falconry in the region may number up to 8,600.

The maintenance of large numbers of captive moulted falcons has been brought about by changing attitudes, economic factors, availability of a proper food source and environmentally controlled moulting facilities. The practice has been aided by the adoption of endurance conditioning techniques and comprehensive veterinary care in some countries. The trend will be toward requiring fewer replacement falcons. Already the average age of the hunted falcon has risen, and in some areas the average age is five to seven years (Al Galth, pers. comm.) These are encouraging signs of measures that have direct conservation benefits. The concept of sustainable and wise use of the wildlife resource is being forced in the proper direction, even if the methods

and constraints are unique.

Taking into account the number of birds removed annually from the population, 2,750, 30-50% would be retained for replacements, with 25% mortality, and an off-setting figure returned to the wild of 15% lost and 15% released. This would leave a net effect of approximately 25-75% removed from the wild, a figure which is in the range of commonly quoted mortality figures for immature raptors. The result would have a negligible effect on the wild population. Estimates of 20,000-100,000 pairs of producing Saker Falcons in the wild would result in an annual production of 60,000-300,000 young (Cade 1982), a figure that would suggest that Middle East Falconry practices are within the bounds of wise and sustainable use of the resource.

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