

Study on the relation between an accipiter bird and man

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Abstract: *Study on the relation between an accipiter bird and man.* The aim of this study was to learn relations between accipitrids and men working with them. The study consisted in observations of trained accipitrids – common buzzard *Buteo buteo* and Northern goshawk *Accipiter gentili*, during everyday trainings, with special attention devoted to the role of sight in their life. As a result of observations made in the study, it was concluded that the visual and audio signal as well as knowing each other and common trust were important factors during man's work with a raptor. Common buzzard turned out to be a calmer bird, its responses were less rapid compared to Northern goshawk. This raptor did not pay attention to the presence of unfamiliar persons, but was vulnerable to objects emitting signals unfamiliar to it (buses or moving trolleys). None of the hunting birds allowed to be touched by an unfamiliar person, which is a natural behavior of raptors. Northern goshawk was responding significantly faster to the sight of an approaching person and was flaying away almost immediately.

Key words: common buzzard *Buteo buteo*, Northern goshawk *Accipiter gentili*, man-bird relations

INTRODUCTION

For ages, relations between man and animals have been accomplished on the plane of production and coexistence. Since ancient times, a man has been remaining in close relations with birds that apart from keeping company to man,

were also trained for work or for sports. A currently popular method of training is the so-called positive reinforcement which consists in the strengthening of positive behaviors by the use of, e.g. rewards and behavioral markers. Before such training, an appropriately strongly motivating reward is selected depending on species preferences.

Northern goshawk *Accipiter gentili* is a timid and secretive bird, difficult to observe (Pielowski 1996). It is a common, though not numerous, species of forest interior (Tomiałojć and Stawarczyk 2003, Anderwald 2013). It is unsociable, impetuous, wild and very bold. It eagerly preys in the afforsted rural and field landscape. The spectrum of its preys is very wide because the trophic niches of male and female hardly coincide. The female is remarkably larger than the male and its prey may be that of the size of a hare, whereas male prey does not exceed the size of a pigeon. Recent goshawk expansion (Rutz et al. 2006b) has been attributable to a continuous increase in the population number of pigeons as a result of transformations in agriculture (Rutz et al. 2006a). Goshawk is reluctant to carrion and has a strong hunting instinct, therefore it is not the ally to pigeon and poultry producers. Many goshawks end their lives in traps set nearby dovecotes

(Kruszewicz 2010). Perceived as a vermin, this raptor has been for ages exterminated also by hunters who were blaming it for losses in populations of hares and game birds.

The situation of common buzzard *Buteo buteo* is much more favorable. It is the most numerous accipiter bird of Poland and Europe (Tomiałojć and Stawarczyk 2003). A high population number, small habitat requirements and “open lifestyle” enable its easy observation outside cities (Pielowski 1996). It nests in forests and large tree complexes. As it feeds with rodents, the biotopes of this raptor include rural and field landscapes (Perrins 1998). Birds constitute the second in line component of its diet, although some scientists claim that the share of birds in its prey may be significantly greater (Goszczyński and Piłatowski 1986, Jędrzejewska and Jędrzejewski 2001, Reif et al. 2001, Goszczyński et al. 2005, Skierczyński 2006). As common buzzard feeds with field pests, a man has no reason for exterminating this raptor.

These birds are used in falconry to, e.g. hunt with a raptor for game (most frequently with goshawk). The widely understood falconry has been popular in many parts of the world inhabited by the birds of prey. It includes both hunting with raptors of the falcon family (Falconidae) *sui generis*, but also hawking with various species of accipitrids belonging to the Accipitridae family including eagles and their subfamily – sea eagles, e.g. white-tailed eagle *Haliaeetus albicilla* or fish hawks *Pandion haliaeetus* – although they all belong to the order Falconiformes (all contemporary ornithological and hunting data come from:

Korbel 1983, Dudziński 1988, Havet 1994, Godlewski 1997, Elphick 2003, Hayman 2007, Nüsslein 2008).

Falconry involves not only preying, but also cooperation between a raptor and a man. Many falconers take care over their raptors for pure pleasure. In general, falconry involves taming (manning) of a raptor and teaching it to fly to the falconer. After appropriate training, the birds equipped in claws and excellent senses are able to capture a prey. A falconer takes a great pleasure in possessing a “winged pet” and in the possibility of observing its flights, whereas the preying itself is a wonderful spectacle and, presumably, the most natural way of practicing hunting.

The aim of this study was to learn relations between accipitrids and men working with them. The study consisted in observations of trained accipitrids – common buzzard *Buteo buteo* and Northern goshawk *Accipiter gentili*, during everyday trainings, with special attention devoted to the role of sight in their life.

MATERIAL AND METHODS

Observations involved two species of accipitrids: the female common buzzard *Buteo buteo* aged 6 years and male Northern goshawk *Accipiter gentili* 1 year of age. Observations of bird trainings were recorded using a stationary digital camera and a flying platform, in the form of short videos presenting behaviors of birds in different situations (Fig. 1): (1) calling the bird to a falconry glove with meat hidden inside; (2) calling the bird to a falconry glove without feed; (3) calling

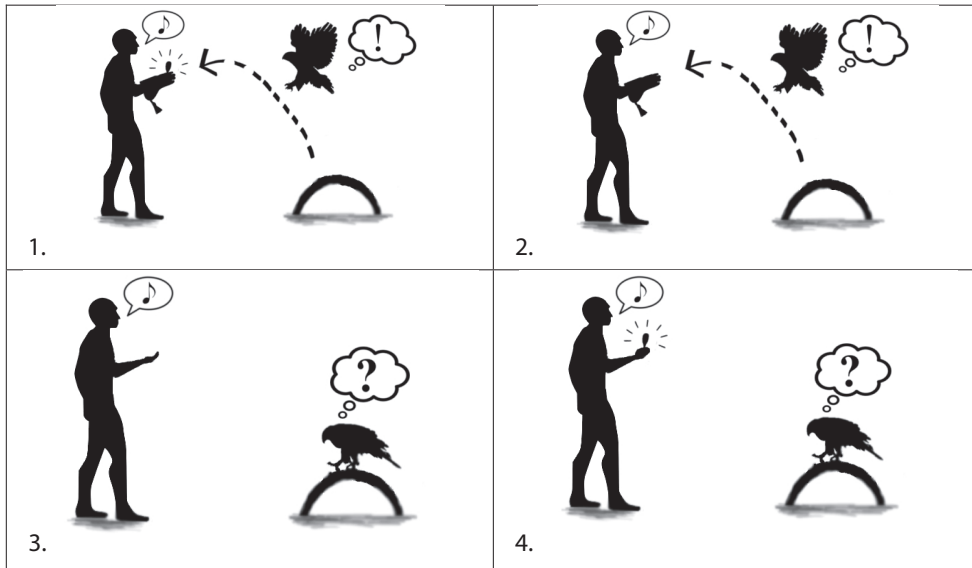


FIGURE 1. Various scenarios of bird training

the raptor to a falconer's hand without a glove and meat; (4) calling the raptor to a falconer's hand without a glove, but with meat; and summoning the birds with the use of different types of obstacles, situations non-specific to raptors' environment and training spaces, including the stress-inducing ones. Training of birds have made their owners. Training the birds took three hours a day through September, October and November. All observations were meticulously described.

RESULTS AND DISCUSSION

Training of the birds of prey is aimed at improving their physical performance and at developing habits indispensable during cooperation of a falconer and his raptor. The basic training method includes the calling of a bird to a glove. Af-

ter each flight, the bird is rewarded with a piece of meat. Depending on physical conditions, the bird performs from a few to several dozens of flights in a single training session. Hence, the stimulus the bird is responding to is the falconry glove.

The first stage of the study included the identification of a stimulus which triggered the accipitrid's response in the form of flight to the trainer. The experiment was carried out in a few variants. The first consisted in calling the bird to a falconry glove with meat hidden inside. The response of the raptor was practically instantaneous. Another variant included calling the bird to a glove without feed. In this case, the response of the raptor was also appropriate. The third variant included an attempt of calling the raptor to a falconer's hand without glove and meat. It resulted in the indifference as well as lack of response and interest

of the bird. The final variant included an attempt of calling the bird to a falconer's hand with feed. Despite reward being noticeable to the raptor, this attempt also ended with bird's indifference towards man. It may, therefore, be concluded that it was the sight of the glove (which is associated by the bird with reward from the beginning of the training) and not of meat that was the stimulus which determined raptor's flight to the falconer. With time and with growing trust in bird-owner relation, some modifications may be introduced into trainings. The falconer is able to teach the raptor flying through between legs of another person. The raptor is attempting to execute this unnatural to it command when it sees the appropriate signal given by the falconer, and its action is motivated by a double reward. The bird would not execute this task without being sure that it may trust its trainer. Another modification of the training is the thrust of a piece of meat into the air and its catch by the bird. Seeing a characteristic pose assumed by the teainer, the raptor is preparing to catch the feed in the air.

Another stage of the study was aimed at confirming the thesis that the sight is the main sense organ of accipitrids in their everyday training. The first experimental variant consisted in observations of bird behavior during calling it to a glove when the owner (with a glove) was hidden behind an obstacle. The goshawk's owner was hiding behind a tree, which resulted in bird's jumping from branch to branch to spot the falconer. Coming out of the owner from behind the tree and showing the glove with feed resulted in the immediate response and flight of the raptor. A similar situation

was observed in the experiment with common buzzard. When the owner was calling the bird from behind a building, the raptor who could not see the glove was not responding to signals. When the falconer emerged from behind the building, the response was instantaneous (as in the case of goshawk) and the bird was flying to the trainer. The second variant of the experiment consisted in examining the function of sight of common buzzard in conditions unknown to the bird, i.e. stress-inducing conditions. Initially, the bird was left on the bus stop at a high-traffic street. Seeing the approaching cars and buses, the raptor was showing stress responses, which included rapid movements of head in various directions and attempts of escape. Once the hood was placed on bird's head, despite sounds of buses and cars, it was no longer showing any signs of anxiety. A similar experiment was carried out when a trolley was moving in common buzzard's environment. It was causing anxiety of the bird which was attempting fly out of the glove. However, once the hood was put onto its head, the bird did not pay attention to even such characteristic sounds as those made by a moving trolley.

The next stage of the study was aimed at observing an important factor in the cooperation of bird and man – namely: trust. A few experiments were carried out that were based on checking raptor's response to its owner and to unfamiliar persons. The first experiment consisted in calling goshawk by the falconer when unfamiliar persons were freely strolling in the field in different directions. The raptor could not decide to fly over the field, was intimidated and anxious with the presence of other people. Only

when the unfamiliar persons dispersed and made a gap, the bird could freely fly through, the raptor took the occasion immediately and returned to its owner. In turn, when the persons unfamiliar to the goshawk were coming together with the falconer (as persons known to the owner), the bird was flying to the glove without hesitation. With this behavior, the bird showed trust to the owner. In the case of common buzzard, the outcome of the experiment was slightly different. In the first and the second situation, the bird did not hesitate and was landing on the glove almost immediately. Without any greater reservations, the raptor was flying through between the persons and was calmly reaching its owner at the moment when the unfamiliar persons were freely strolling in various directions as well as when the unfamiliar persons were coming together with the falconer. Another experiment consisted in bird's flights from one glove to another, from the owner to the unfamiliar person and vice versa. In the case of goshawk, some complications occurred. The raptor did not want to fly to the unfamiliar person. But without any reservations, was returning to its owner. In contrast, common buzzard was flying to both its owner and to unfamiliar persons. The last experiment investigating the bird-owner trust consisted in checking raptor's behavior that was sitting on the ground toward familiar and unfamiliar persons coming by. Seeing its owner, the goshawk was practically staying in place; it was not running away, showed no fear nor anxiety – just the opposite, the bird was shaking its feathers off, showing rest and comfort. When the unfamiliar person was approaching, the bird was immediately frightened and flew away.

In the case of the common buzzard, the response to the owner was the same – the bird was calmly sitting in once place and showed no fear. Once the unfamiliar person was approaching, the bird showed no response and was staying in place, while too close contact with the strange person resulted in the raptor's escape.

In his book, Mieczysław Mazaraki (1977) describes old methods of falcons training for hunting, applied when the concept of “positive reinforcement” had not been introduced into training methods. However, even then falconers were using the system of rewards as well as simple commands and signals to develop a desired behavior in a bird. The training of falcons included four basic stages. It started from the so-called manning, i.e. taming of the bird; elimination of its wildness and strive for freedom. The bird was not allowed to fall asleep for 3–4 days. Afterwards, it was numb and much calmer, and this enabled starting the second stage of the training when the bird was accustomed to the touch of the falconer, to wearing a hood and to peaceful sitting on the glove. The falcon had to earn every piece of meat it had been given for the appropriate behavior. In turn, the bird was not given the feed to atone disobedience. “Methods currently used by falconers are not that drastic. Just the opposite, they are humanitarian and show full understanding to the responses of the trained bird, and most of all show the knowledge of the theory of conditioned reflexes, which automatically eliminates cruelty and excessive violence from training” (Mazaraki 1977). Next, there came the time for the principal stage of learning, i.e. for beyond manning. The bird had to learn to fly to the falconer at a given signal, which could

include e.g. name of the bird or sound of a whistle. Afterwards, the bird had to land on the glove and eat a piece of meat prepared for it. It was important to teach the falcon to restrain from the attempt of escaping with the feed. At this stage of training, the bird should be calm and tamed with horses, dogs, tools used for hunting like, e.g. nets, but most of all it shall not be afraid of the game it would be pointing in the future. The fourth stage of the training, i.e. setting, was began when the falconer was sure that the bird might be left free, and that the bird would not escape. Initially, the falcon's "prey" included dummy or carrion. With time, the raptor was attacking weak animals, to beat them easily and to gain confidence. Courage and experience gained in exercises of this type made that during hunting the falcon could prey animals significantly greater than it would normally attack in natural conditions. An important element of the training was to teach the bird to give away its prey. Instead, it was given a reward, e.g. a sparrow or a bovine liver. Although the training itself was somehow cruel, at least at the first stages of bird taming, the best results were achieved by falconers who were gentle to their raptors. A key to success was intermittent spending time together with the falcon during training, feeding the falcon from hand, patience and delicacy as well as caring for its health (Mazaraki 1977).

SUMMARY

As a result of observations made in the study, it was concluded that the visual and audio signal as well as knowing each other and common trust were important

factors during man's work with a raptor. Common buzzard turned out to be a calmer bird, its responses were less rapid compared to Northern goshawk. This raptor did not pay attention to the presence of unfamiliar persons, but was vulnerable to objects emitting signals unfamiliar to it (buses or moving trolleys). It results from the biology of this bird and its prey preferences, as well as from direct causes that include the nervous system and the hormonal system that control animals behaviors. These systems receive information from the outside environment through sense organs. Usually, the nervous system mediates in more detailed and instantaneous responses, whereas the hormonal system monitors the slower and more general responses.

None of the hunting birds allowed to be touched by an unfamiliar person, which is a natural behavior of raptors. Northern goshawk was responding significantly faster to the sight of an approaching person and was flaying away almost immediately.

Training a raptor is not easy and requires devoting a significant amount of time as well as possessing sound knowledge and competencies. Even under man's care, this bird remains wild and free, and each mistake made by man may cause that it will chose life in the natural environment.

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Streszczenie: *Badanie relacji ptaka szponiastego z człowiekiem.* Celem przeprowadzonych badań było poznanie relacji między ptakami szponiastymi i ludźmi, którzy z nimi pracują. Prowadzono obserwacje ułożonych ptaków drapieżnych – myszołowa zwyczajnego *Buteo buteo* oraz jastrzębia gołębiarza *Accipiter gentili*, podczas codziennych treningów ze szczególnym uwzględnieniem roli, jaką w życiu tych ptaków pełni ich wzrok. W wyniku obserwacji stwierdzono, że podczas pracy człowieka z ptakiem łowczym ważne są sygnały wizualny i słuchowy oraz wzajemne poznanie i zaufanie. Myszołów zwyczajny jest ptakiem spokojniejszym, jego reakcje są mniej gwałtowne w porównaniu do jastrzębia gołębiarza. Drapieżnik ten nie zwraca uwagi na obecność obcych ludzi, natomiast jest wrażliwy na obiekty emitujące nienaturalny dla niego dźwięk (autobusów czy poruszających się wózki). Żaden z ptaków łowczych nie pozwolił się dotknąć obcej osobie, co jest zachowaniem naturalnym dla drapieżników. Jastrząb gołębiarz reagował znacznie wcześniej na widok zbliżającego się do niego człowieka i odlatywał niemal natychmiastowo.

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