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BREEDING OF THE GOLDEN EAGLE IN THE POLISH PART OF THE SANOCKO-TURCZANSKIE MOUNTAINS

C. Ćwikowski, G. Mołodyński

Гніздування беркута у польській частині Сянсько-Турчанських гір. - Ц. Чвіковський, Г. Молодиньський. - Беркут. 4 (1-2). 1995. - Сянсько-Турчанські гори знаходяться між долинами річок Сян, Дністер і Стрий. Беркут належить до дуже рідкісних птахів Польщі. Гніздова популяція його оцінюється приблизно в 10 пар. Більшість гнізд знаходяться в Карпатах та Мазурії (Північно-Східна Польща). У Сянсько-Турчанських горах молодого беркута вперше спостерігали наприкінці 1980 р. У 1993 р. тут виявлено 3 гніздові території. Пізніше було знайдено 2 гнізда. Перше з них птахи побудували у буково-ялицевому лісі на 115-річній ялиці на висоті 18 м. У 1993 р. беркути його не займали, хоча поблизу постійно спостерігали одну особину. У 1994 р. ця пара вивела одне пташеня. Друге гніздо збудоване також на старій ялиці на висоті 25 м. Воно було виявлене під час висиджування птахами кладки. У харчуванні беркута виявлені: лісова куниця, тхір, домашній кіт, козуля, їжак, заєць-русак, припутень, крук. Навколо гнізд встановлена захисна зона: в радіусі 200 м - суворої охорони і 500 м - часткової охорони.

Key words: Golden Eagle, Carpathians, ecology, distribution, breeding, feeding, protection.

The Sanocko-Turczanskie Mountains cover the area between the valleys of the San, the Dniester and the Stryj Rivers (Kondracki, 1989). They are the northernmost flexures of the East Carpathians. Only their western part (approximately 930 km^2) is situated in Poland. The highest summits are Jawornikow 910 a. s. l. in the Polish part and Magura Lomniacska (1024 m a. s. l.) in the Ukrainian part. The San River Valley separates the Sanocko-Turczacskie Mountains from the Western Bieszczady Mountains.

Breeding of the golden eagle (*Aquila chrysaetos*) is regarded as extremely rare in Poland. The number of nesting pairs is estimated to about ten. Most of the nests are in the Carpathians and in the Mazuria (NE Poland) (Tomiaiojc, 1990). Most of the latest breeding records were made in the Carpathians. Since 1976, breeding has been recorded in the Tatra Mountains (Cichocki, 1986). From 1986 to 1990, breeding was recorded in the Bieszczady Mountains (Komisja Faunistyczna, 1991). In 1994, one nest was found in the Beskid Niski Mountains (the eastern part of Polish Carpathians) (Stój, Machura 1994). At present, one active nest is known in Northern Poland in Slowinski National Park.

The first time the authors of this paper watched immature and adult golden eagles in the Sanocko-Turczanskie Mountains at the end of the 1980s. In 1993 three territories of the golden eagle were identified there. They were situated along a meridional transect at about 11 km intervals.

So far, two nests of the golden eagle have been found. The first one was found in spring 1993. In 1994 breeding of the golden eagle was recorded in that nest.

It is built on a 115 years old fir tree (*Abies alba*) with a circumference of 3,9 m (measured on the height of 1,3 m). The nest is situated about 18 m above the ground on the trunk in the centre of the crown. The construction is supported by branches of the two limbs of the trunk a few meters above its fork. The nest is about 1 m thick and 1,8 m in external diameter. It is built mostly of medium girth fir branches with an interspersing of thin pine branches. At the beginning of the breeding season, its upper zone was "decorated" with fern fronds.

The surrounding area is covered by a mixed beach-fir forest with little interspersing of birch. The hazelnut, and young fir predominate in the brushwood. The most common plants of the forest bottom are *Rubus hirtus, Dentaria glandulosa, Dryopteris austriaca, D. affinis, D. filix-mas* and *Glechoma hirsuta*. In close vicinity there is a small patch of planted pine forest with trees about 45 years old. Apart from the forest there are also meadows used for hay harvesting and as pasture. They are partially overgrown by scattered shrubs of *Prunus spinosa, Rosa canina* and *Juniperus communis*. At the foot of the hill, on which the nest is, a stream flows. Its banks are overgrown by grey alder (*Alnus incana*) and willow (*Salix fragilis*). In the neighbourhood of the nest, two furnaces for charcoal production (situated 0,6 and 1 km from the nest) have been working for the last few years. However, it has not caused an abandonment of the nest by the eagles.

In 1993 no breeding was recorded although one bird was seen regularly in close vicinity of the nest. The presence of a pair was not recorded until September 12, 1993. Since February a pair of golden eagle has been seen in the territory regularly. On March 3, 1994 a copulation of this pair was seen. It took place about 150 m from the nest. During the period of hatching the authors did not approach the nest in order to avoid disturbing the birds. However, the location of the nest enables its observation from a distance of about 0,5 km from a neighbouring hill. From that place a hatching bird in the nest and an adult bird feeding a nestling fully covered by light grey down were seen. The observations were made on March 22, 1994, and June 12, 1994, respectively. On July 24, 1994, the nest was approached and an immature golden eagle perching on a branch by

the nest was watched. The bird was fully fledged and able to leave the nest. During penetration of the area around the nest on August 01, 1994, the young bird was not seen. This implies the bird left the nest in the last week of July. The success of the breeding was confirmed by the observation of October 10, 1994, when a pair of adult and one immature golden eagles were seen wheeling over the breeding territory.

Another nest was found during the hatching period while a female eagle was sitting on the eggs. The nest is situated 25 m above the ground on a 100 year old fir tree ith a circumference of 3,5 m (measured on the height of 1,3 m). The construction is supported by branches of the two limbs of the trunk a few meters above its fork. The construction is about 0,8 m thick and 1,8 m in external diameter. It consists of medium girth fir branches and the upper part is built of thinner pine branches.

The area is covered by beach forest with patches of fir and interspersing of sycamore (*Acer pseudoplatanus*). The wood brush consists of young beach and fir. On the forest bottom *Rubus hirtus, Dentaria glandulosa,Oxalis acetosella, Dryopteris austriaca* and *Chrysosplenium alternifolium* predominate. The opposite slope is covered by meadows and pastures divided from each other by ravines overgrown by grey alder and single fir trees. A beaten forest track (not available for public traffic) crosses the area near the site. Unlike the previously described one, that nest was not observed regularly. However, an immature golden eagle has been seen perching at the top of a fir tree 300 m from the nest implies successful breeding took place also there.

So far, no golden eagle nest has been found in the third of the mentioned territories. All the field records made so far prove that one of the birds in the pair is immature. Therefore, it seems likely that they haven't attempted to breed yet.

The remnants of the eagles' prey, collected beneath the nest that was found first, enable an insight into the birds' diet. Full skeletons, skulls and single bones of the marten (*Martes martes*), polecat (*Mustela putorius*), cat (*Felis catus*), roe deer (*Capreolus capreolus*), East European hedgehog (*Erinaceus concolor*), hare (*Lepus europaeus*), as well as feathers of a wood pigeon (*Columba palumbus*), raven (*Corvus corax*) and chicken were found. The pellets consisted mostly of hairs of the domestic cat, roe deer, marten and hare. In some of the pellets, claws and bones of the marten were identified. Some of the remnants (covered with leaves and overgrown by a green coat) apparently came from previous years, which implies earlier breeding in the nest.

Beneath the other of the found nests the following remnants of prey were collected: pieces of the skeleton of an about seven months old roe deer (the age was determined on the basis of the upper jaw teeth), limbs of a hare, and single bones of birds. Apart from prey remnants, primary flight feathers of the golden eagle were found.

The collected remnants of the golden eagle prey enable an insight into their diet. However, the reconstructed list of species is certainly not complete. According to Stój, Machura (1994), the golden eagle diet in the Beskid Niski Mountains contained also foxes (*Vulpes vulpes*), ermine (*Mustela erminea*), and pigeon (*Columba domestica*). Remnants of a young wild boar (*Sus scrofa*) were found beneath the nest in the Slowinski National Park.

In the Sanocko-Turczacskie Mountains domestic species (cats, chickens) make up relatively big proportion of the golden eagle diet. This seems to be caused by the short distances between the territories and the nearest villages, as well as availability and easiness of hunting this sort of prey. The golden eagles do not seem to be afraid to forage in the vicinity of the villages. In December 1994, a pair of eagles was seen feeding on a hunted cat only about a half kilometer from the nearest houses. Moreover, cats are often seen roaming about on meadows and in the forest quite far from human settlements.

From all the data on the golden eagle nesting habits collected up to present in Poland, it appears that needle trees are the preferred nesting site. In the Sanocko-Turczanskie Mountains all the nests were built on fir trees; in the Beskid Niski mountains on larch; and in Slowinski National Park on pine (Chrzanowski, 1992). According to records from the middle of the 19th century in the Polish part of the Carpathian Mountains there were nine nests of golden eagles on spruce trees.

All the breeding territories of the golden eagle that have been found so far are situated in close vicinity of vast meadows and pastures, (most of which are former grounds of state farms). Numerous observations of eagles and other raptors foraging on those meadows prove they are important parts of golden eagles feeding territories. Meadows where hay is harvested are particularly often foraged

In 1983 on the strength of the Decree on Species Protection, the regulations on the creation protective zones around nests of rare species of raptors, the black stork (*Ciconia nigra*) and the eagle owl (*Bubo bubo*) were introduced. Protective zones were established around both golden eagle nests mentioned above. However, this does not seem to enable permanently effective protection. The zone of strict protection extends only up to 200 m from the nest and the

zone of partial protection only up to 500 m. Such small zones protect birds from being disturbed only in the closest surroundings of their nests, but have no influence on the conditions within their feeding territories. To protect the golden eagle effectively, it seems necessary to work out a thorough protective program. It should consider the needs of farming and forest management on the one hand, and be a guarantee of effective protection of entire habitats within the golden eagle territories on the other.

Breeding of the golden eagle in the area of the Sanocko-Turczacskie Mountains has been officially certified by the Avifaunistic Commission of the Ornithological Section of the Polish Zoological Society.

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Cezary Ćwikowski
ul. 1-go Maja 13/35
38-700 Ustrzyki Dolne
Poland

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ВИПАДОК ЗИМІВЛІ БУГАЯ У ВІННИЦЬКІЙ ОБЛАСТІ

Case of the Bittern wintering in Vinnitsa region. - I.S. Shkolny. - Berkut. 4 (1-2). 1995. - A bird was observed on a pond near the village of Soroka

Один бугай (*Botaurus stellaris*) спостерігався 5.01.1995 р. поблизу с. Сорока Іллінецького р-ну серед минулорічної рослинності на ставку, утвореному на р. Сіб (ліва притока Південного Бугу). Зимівля цього птаха стала можливою завдяки наявності поблизу незамерзаючої ділянки річки, багатої дрібною рибою.

І.С. Школьний

Україна (Ukraine),
287100, Вінницька обл.,
Мурованокуриловецький р-н,
с. Вищеольчедаїв.
І.С. Школьний.

НОВОЕ МЕСТО ГНЕЗДОВАНИЯ ЧЕРНОГО АИСТА НА ЗАКАРПАТЬЕ

New nesting place of the Black Stork in the Transcarpathians. - M.A. Barenblat, I.A. Barenblat. - Berkut. 4 (1-2). 1995. - A nest was found in the old oak forest on the river Latoritsa in 20 km to the South from Uzhgorod in 1995. This is the first nest find in the Transcarpathian lowland.

До настоящего времени все находки гнезд черного аиста (*Ciconia nigra*) в Закарпатской обл. были приурочены к горной местности. Гнездо на территории Закарпатской низменности было впервые обнаружено нами в 1995 г. в Велико-Доброньском лесничестве возле с. Тейглаш (Цегловка) Ужгородского р-на. Находится оно в старом дубовом лесу у р. Латорица. Участок с гнездом входит в Велико-Доброньский зоологический заказник. Построено оно на дубе черешчатом на высоте 15 м. Ежегодно в результате паводков и дождей этот лес и луга вокруг него затапливаются. После воды в лесу остаются болотца. Такой гидрологический режим препятствует проникновению вглубь леса людей и способствует успешному гнездованию птиц. Здесь также находится колония серой цапли (*Ardea cinerea*), есть гнезда канюка (*Buteo buteo*) и черного коршуна (*Milvus migrans*). По данным В.В. Боднара, черный аист наблюдался и в 6 км выше по реке от этого места, т. е. здесь возможно гнездование и второй пары.

М.А. Баренблат, И.А. Баренблат

Украина (Ukraine),
294015, г. Ужгород,
ул. Легоцкого, 7, кв. 17.
М.А. Баренблат.