

New data on the food of the White-tailed Sea Eagle (*Haliaeetus albicilla*) in the Svjatoj Nos wetlands, Lake Baikal

Nové údaje o potravě orla mořského (*Haliaeetus albicilla*) na mokřadě Svjatoj Nos, jezero Bajkal

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ABSTRACT. The food of White-tailed Sea Eagles was studied during the 1994 breeding season in the Svjatoj Nos wetlands at Lake Baikal in East Siberia. The eagles preyed almost exclusively on water birds, especially ducks. Among the prey remains wing-bones markedly prevail over leg ones, which reflects the mode of prey consumption.

The White-tailed Sea Eagle (*Haliaeetus albicilla* /Linnaeus/) is widespread in Siberia (STEPANJAN 1990), but its local food is largely known from accidental observations only. Thus far, more detailed studies were performed only on the lower Lena river in Yakutia (LABUTIN et al. 1988) and in the Svjatoj Nos wetlands in Buryatia (MLÍKOVSKÝ 1992). Below, I present additional information on the food of White-tailed Sea Eagles in the latter locality.

The Svjatoj Nos wetlands are located on the Svjatoj Nos isthmus at NE Baikal in East Siberia, Russia (ca. 53°19' N, 109°01' E). Their area is ca. 300 km², and their elevation is ca. 455 m a.s.l. For a more detailed description see MLÍKOVSKÝ et al. (1992).

White-tailed Sea Eagles are generally rare in Buryatia (KEL'BERG & PROKOPEV 1988), but more densely populated areas are known from the Bauntovskaja basin in NE Buryatia (POPOV 1987), and on the Svjatoj Nos isthmus (GUSEV 1976, MLÍKOVSKÝ 1992). They comprise at least 20 and 3 breeding pairs, respectively, which makes altogether some 50% of the Buryat population of these eagles (see MLÍKOVSKÝ 1992).

Remains of prey were collected below an active nest near the southern shore of the Svjatoj Nos isthmus at Kedrovka on 11 September 1994, after the young had fledged. The nest, called "B" by MLÍKOVSKÝ (1992) was located ca. 14 m high on a pine tree (*Pinus sylvestris*) in light taiga. It was very large, and had probably been inhabited for a number of years.

The bones were identified using the author's comparative collection of bird skeletons. Minimum numbers of individuals were calculated according to GRAYSON (1984).

As in 1991, White-tailed Sea Eagles fed primarily on birds, mainly ducks, in the Svjatoj Nos wetlands in 1994 (Table 1). This agrees with their diet in two of four localities in Yakutia (LABUTIN et al. 1965, 1988), while rodents (*Citellus undulatus* and *Arvicola terrestris*, respectively) were the most common prey in the remaining two Yakutian localities (LABUTIN et al. 1965, 1988). In Europe, fish is generally the most common prey of White-tailed Sea Eagles (FISCHER 1970, CRAMP & SIMMONS 1980). It remains unknown why they specialize on birds in the Svjatoj Nos wetlands, because muskrats *Ondatra*

zibethica and fish are also very common in the locality. Nevertheless, Eagle Owls *Bubo bubo* also specialize on water birds in the Svjatoj Nos wetlands (MLÍKOVSKÝ, unpubl. results).

The study of the composition of avian remains in the food of White-tailed Sea Eagles collected in 1994 (Table 2) showed results similar to an earlier study (MLÍKOVSKÝ 1992). The eagles apparently swallow and digest hindlimbs, but leave forelimbs unswallowed, just picking the meat from them. This is reflected in the frequent preservation of wing-bones, compared with the negligible preservation of leg-bones (Table 2).

Table 1 - Food of the White-tailed Sea Eagle in the Svjatoj Nos wetlands, Lake Baikal. A,B,C - remains collected under nests A,B,C in 1991 (after MLÍKOVSKÝ 1992); BB: pellets collected under nest "B" in 1991 (after MLÍKOVSKÝ 1992); B⁺: remains collected under nest "B" in 1994. MNI's (sensu GRAYSON 1984) are given.

Tab. 1 - Potrava orla mořského v mokřadech šíje poloostrova Svjatoj Nos na jezeře Bajkal. A,B,C - zbytky potravy sbírané pod hnízdy A,B,C roku 1991 (podle MLÍKOVSKÉHO 1992); BB: vývržky zpod hnízda B z roku 1991 (podle MLÍKOVSKÉHO 1992); B⁺: zbytky potravy zpod hnízda B z roku 1994. Čísła znamenají MNI (sensu GRAYSON 1984).

	A	B	B ⁺	BB	C	Total	% Total
<i>Esox lucius</i>	6	1	3	-	1	11	5.1
<i>Perca fluviatilis</i>	-	-	1	-	-	1	0.6
<i>Carassius auratus</i>	-	1	-	-	-	1	0.6
<i>Gavia arctica</i>	-	-	-	-	1	1	0.6
<i>Gavia stellata</i>	-	-	1	-	2	3	1.9
<i>Podiceps cristatus</i>	-	1	-	1	-	2	1.3
<i>Podiceps auritus</i>	-	2	3	-	2	7	4.4
<i>Ardea cinerea</i>	-	1	-	-	-	1	0.6
<i>Tadorna ferruginea</i>	-	-	-	-	3	3	1.9
<i>Anas spp.</i>	11	22	17	1	28	79	50.0
<i>Aythya spp.</i>	-	6	17	-	8	31	19.6
<i>Mergus serrator</i>	-	-	-	-	1	1	0.6
<i>Numenius arquata</i>	-	-	-	-	1	1	0.6
<i>Tringa sp.</i>	-	-	-	-	1	1	0.6
<i>Larus argentatus</i>	-	2	2	-	-	4	2.5
<i>Larus canus</i>	-	-	-	1	-	1	0.6
<i>Larus minutus</i>	-	1	-	-	-	1	0.6
<i>Sterna hirundo</i>	-	1	-	-	-	1	0.6
<i>Ondatra zibethica</i>	-	-	2	2	3	7	3.8
<i>Pisces</i>	6	2	4	-	1	13	8.2
<i>Aves</i>	11	36	40	3	47	137	87.3
<i>Mammalia</i>	-	-	2	2	3	7	4.4
Total	17	38	46	5	51	157	99.4

SOUHRN

Potrava orla mořského v době hnízdění byla zkoumána v mokřadech na šíji poloostrova Svjatoj Nos na jezeře Bajkal na východní Sibíři v hnízdní sezóně 1994 na základě zbytků potravy nalezených pod hnízdem po vyhnízdění. Orli se živili téměř výhradně vodními

Table 2 - Composition of avian remains of the food of White-tailed Sea Eagles in the Svjatoj Nos wetlands, Lake Baikal. A,B,C - remains collected under nests A, B and C, respectively, in 1991 (after MLÍKOVSKÝ 1992); B⁺: remains collected under nest "B" in 1994.

Tab. 2 - Složení zbytků potravy orla mořského v mokřadech šíje poloostrova Svjatoj Nos na jezeře Bajkal. A,B,C: zbytky nalezené pod hnízdy A,B,C roku 1991 (podle MLÍKOVSKÉHO 1992); B⁺: zbytky nalezené pod hnízdem B roku 1994.

	A	B	B ⁺	C	Total Celkem	Broken Zlom.	% brok. % zlom.
Skull	1	12	8	22	43	43	100.0
Coracoid	12	42	56	38	148	9	6.1
Scapula	12	38	55	60	165	152	92.1
Furcula	1	2	2	7	12	6	50.0
Sternum	9	42	33	38	122	121	99.2
Humerus	14	50	56	55	175	12	6.9
Ulna	11	40	28	36	115	6	5.2
Radius	11	38	26	34	109	27	24.8
Carpometacarpus	12	35	23	34	104	3	2.9
Phalanx I dig. maj.	7	30	20	21	78	0	0.0
Pelvis	4	14	15	18	51	49	96.1
Femur	-	1	5	8	14	1	7.1
Tibiotarsus	1	2	4	17	24	5	20.8
Fibula	-	1	3	2	6	3	50.0
Tarsometatarsus	1	2	1	8	12	5	41.7
H+U+CMC	37	125	107	125	394	21	5.3
F+TT+TMT	2	5	10	33	50	11	22.0
Total	96	349	335	398	1,178	442	37.5

ptáky, zejména kachnami rodů *Anas* a *Aythya*, a jen zcela výjimečně rybami a ondatrami (Tab. 1). Podobná specializace na vodní ptáky (byť ne tak extrémní) byla zjištěna i na dvou lokalitách v Jakutsku (LABUTIN et al. 1965, 1988). Nelze však říci, že by tato specializace byla typická pro celou Sibiř, protože na dalších dvou jakutských lokalitách se orli mořští živili především drobnými savci (LABUTIN et al. 1965, 1988). Analýza složení zbytků potravy ukázala, že mezi zbytky silně převažují kosti křídla a ramenního pletence nad kostmi zadní končetiny (Tab. 2). To znamená, že orli polykají zadní končetiny ptáků vcelku, zatímco z přední části těla maso jen ozobávají, což se ve sbíraném materiálu projevuje silnou převahou kostí předních končetin.

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