

Falconry – its influence on biodiversity
and cultural heritage

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EARLY FALCONRY IN RUSSIA: RECENT FINDS IN NOVGOROD THE GREAT AND TVER

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ABSTRACT

Starting at the beginning of the State in 9th cent. AD, falconry has a long history in Russia. Being primarily the leisure activity of nobility, falconry in Russia has been influenced by both Oriental and Western traditions. Recent finds of bones and artifacts on the course of archaeological excavations in two cities of the Central Russia, Novgorod the Great and Tver, support this observation.

KEY WORDS: *Falconry, Asia, Western Europe, Russia, raptors, owls, trading*

Falconry in Russia has a long history, encompassing more than thousand years of practice (Zinoviev 2016). Due to the position of the country, Russian falconry has elements of both Western European and Asian hunting traditions. Vast country now, early Russia or Rus has covered only a moderate part of Eastern Europe, stretching at the beginning of 16th cent. only to the Ural Mountains. The early falconry is restricted to the ancient Russian cities with strongholds, such

as Novgorod the Great, Kiev, Tver, Moscow, Vladimir, Suzdal and several others. Review of most written sources, artifacts and osteological materials related to the falconry from the medieval Russia will be provided elsewhere (Zinoviev 2016). Here we report recent finds in two ancient Russian cities, Novgorod the Great and Tver (Fig. 1A).

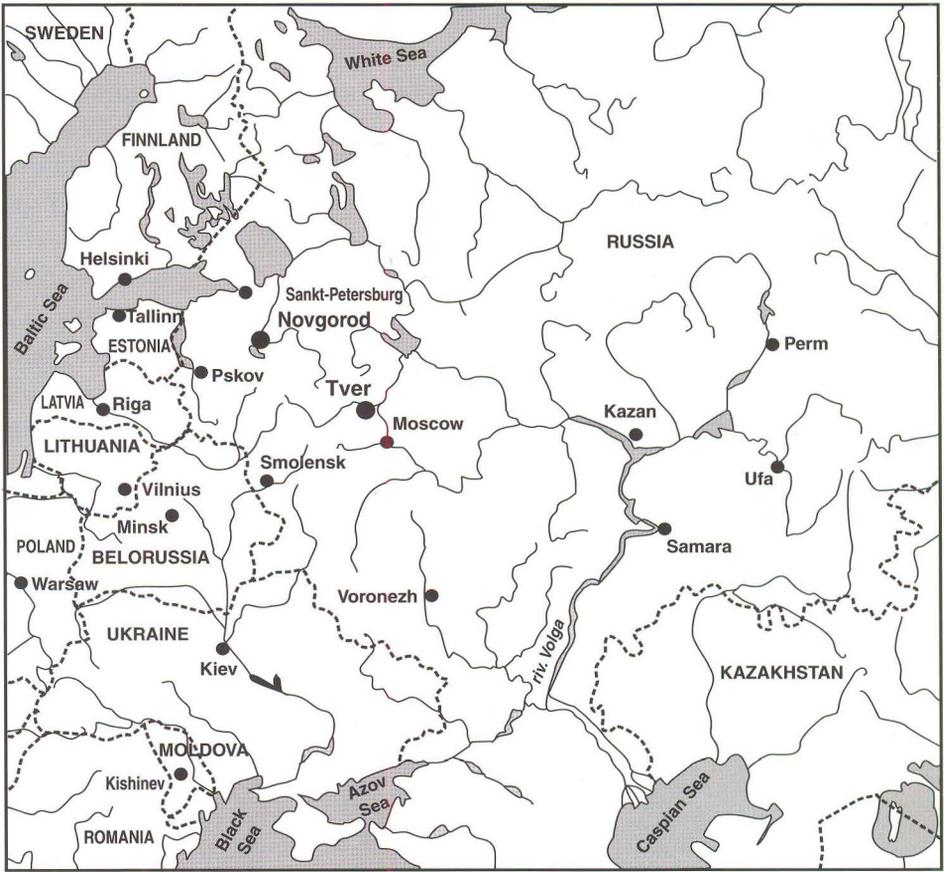
MATERIALS AND METHODS

Osteological material and artifacts were obtained on the course of archaeological excavations. Site Rogatitsky-3 (350 m²) in Novgorod the Great (city is founded in the 9th cent. AD) was located on the so called Trading End across the Volkhov River from Novgorod stronghold or Detinets (Fig. 1B). It exposed layers of 11th–16th cent. AD. 177 identified avian bones have been uncovered there in 2014. Site Khimik (156 m²) in Tver (city is founded in 12th cent. AD) was located on the northwestern part of the former Tver's stronghold near the confluence of the river Volga and its right tribute river T'maka (Fig. 1C). It exposed layers of 11th–18th cent. AD. 66 identified avian bones have been uncovered here in 2013. Avian bones have been cleaned and subsequently identified, and, if possible, sexed, using the comparative osteological collection of the Biology Dept. of Tver State University (Tver) and guides (Tomek, Bocheński 2000, 2009; Bocheński, Tomek 2009).

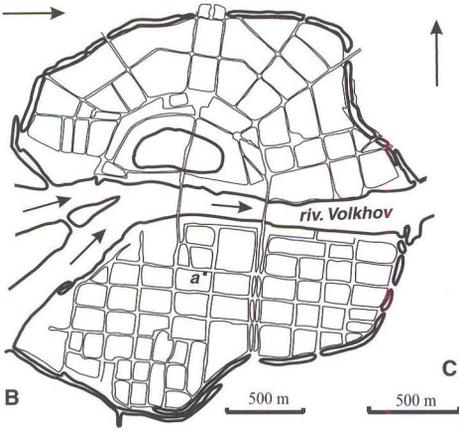
RESULTS AND DISCUSSION

Table 1 shows that number of avian bones differs for both sites. And this is not only due to the different size of archaeological grounds. Wet layers of Novgorod the Great favor the preservation of even minute bones in their entirety. Most of the layers in Tver stronghold are not that wet. Locations of the sites are also important. Rogatitsky-3 site covers a number of mansions on the Trading End of Novgorod the Great, whereas Khimik site is mostly restricted to the area of ancient wooden fortification and several adjacent buildings.

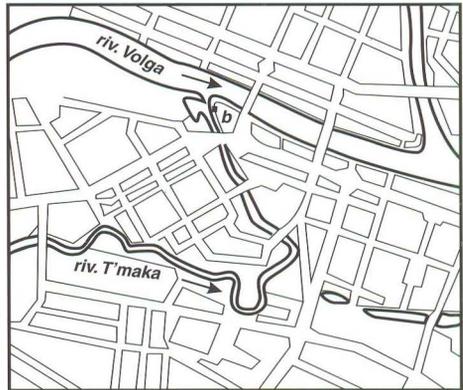
Bones of the domestic chicken (*Gallus gallus domesticus*) dominate on both sites. This is normal for the majority of the medieval Russian cities (Maltby and Hamilton-Dyer 1995; Hamilton-Dyer 2002; Zinoviev 2011 etc.). Ducks and geese (fam. Anatidae) keep the second place. Interestingly, that bones wild and domestic ducks from Novgorod the Great largely outnumber ducks' bones from Tver. The large number of waterfowl bones in the layers of medieval Novgorod the Great was already noticed by Maltby and Hamilton-Dyer (1995). This is not surprising if we keep in mind the presence in the vicinity of Novgorod of the large water body, Lake Ilmen', with vast marshy areas, favored by nesting and migrating waterfowl.



A



B



C

Figure 1. Location of Novgorod the Great and Tver (A); positions of Rogatitsky-3 site (a) in Novgorod the Great (B) and Khimik site (b) in Tver (C).

Other avian species, found in the sites, are of special interest. Their composition might point to the presence of falconry in medieval Novgorod the Great and Tver. In fact, only ulna of Northern Goshawk (*Accipiter gentilis*) from the 13th cent. layer may indicate this activity in Tver. Other species, such as Common Raven (*Corvus corax*) and Capercaillie (*Tetrao urogallus*) could be related to other activities. Traces of falconry in medieval Tver are known from a number of artifacts. Jesses with tarsometatarsi of the Gyrfalcon male (*Falco rusticolus*) and Peregrine Falcon female were found in the layers of 13th cent. AD (Kurbatov 2004). A strange artifact, consisting of two tarsometatarsi of Little Owl (*Athene noctua*), secured in two jess-like leather strips (Fig. 2A), was found in layers bordering 13th and 14th cent. AD. Artifact might have also been related to the falconry. Small owls or their imitations are known to be used to attract small passerines, such as larks (Arentsen and Fenech 2004). These passerines then could have well been used for hunting or training of small falcons and hawks.

The other picture provides Rogatitsky-3 site. Bones of two females of Eurasian Sparrowhawk (*A. nisus*), two females of Northern Goshawk, one female of Peregrine Falcon, found in the layers of 12th cent. AD, indicate the falconry. Females of raptors are larger; they were favored as they could hunt the larger prey



Figure 2. Tarsometatarsi of the Little Owl, secured in jess-like strips (Tver, 13–14th cent. AD) (A); Fragment of the right tarsometatarsus of the Eurasian Eagle Owl with traces of an inflammation, enlarged in the square (B) (Novgorod the Great, 13th cent. AD); Fragment of the pelvis of Mallard with marks (arrows) on the right ilium, resembling those of hawk's beak (C) (Novgorod the Great, 13th cent. AD).

(Maltby and Hamilton-Dyer 1995). Contemporaneous composition other birds' bones also point to the falconry (Prummel 1997). Corvids, such as Hooded Crow (*Corone cornix*) and Common Raven, are known to be used as lures for training falcons and hawks. Like larks, mentioned above, they were attracted by the captive owls, including Eurasian Eagle-Owl (*Bubo bubo*). Inflammatory process on the right tibiotarsus of the female Eagle Owl (Fig. 2B), found on the site, indicates its possible captive status in Novgorod the Great. Pigeons, capercaillies and ducks might have also been connected to falconry as prey or food. Pelvis of the Mallard (*Anas platyrhynchos*) from Rogatitsky-3 site bears traces, resembling those of the hawk's beak (Fig. 2C). Such special composition of bird bones allows assuming the presence in 12th cent. AD in Trade End of Novgorod the Great of the falconry yard or the place, related to falconry.

Table 1. Avian bones from the sites in Novgorod the Great and Tver

Species Site	Rogatitsky-3		Khimik	
	n	N	n	N
<i>Accipiter nisus</i>	3	2	–	–
<i>Accipiter gentilis</i>	4	2	1	1
<i>Anas acuta</i>	1	1	–	–
<i>Anas clypeata</i>	1	1	–	–
<i>Anas crecca</i>	20	11	–	–
<i>Anas penelope</i>	1	1	1	1
<i>Anas platyrhynchos</i>	53	33	4	4
<i>Anser anser</i>	8	6	4	4
<i>Athene noctua</i>	–	–	2	1
<i>Columba livia</i>	3	3	–	–
<i>Bubo bubo</i>	1	1	–	–
<i>Corvus cornix</i>	2	2	–	–
<i>Corvus corax</i>	4	3	1	1
<i>Falco peregrinus</i>	4	1	–	–
<i>Gallus gallus dom.</i>	70	39	51	41
<i>Pica pica</i>	–	–	1	1
<i>Tetrao urogallus</i>	2	2	1	1
	177	108	66	55

Abbreviations: n – number of bones; N – minimum number of individuals

CONCLUSION

Known from the 9th cent. AD on, falconry in Russia was a noble activity. Most of the bones and artifacts, related to this type of hunting, are found in or nearby urban strongholds. Medieval Novgorod the Great and Tver are not the exceptions.

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