

Kleptoparasitism by raptors, focusing on the Imperial Eagle (*Aquila heliaca*)

Kleptoparazitizmus u dravcov so zameraním na orla kráľovského (*Aquila heliaca*)

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Kleptoparasitism (stealing or scrounging other animals' food or prey) is a specific method of acquiring food in which one animal steals the prey which another has already caught. If animals of the same species steal each other's food, we speak of intraspecific kleptoparasitism, while food stealing by different species is known as interspecific kleptoparasitism. For the individual concerned, the strategy of stealing food involves the saving of time and energy which would otherwise be spent in active hunting, which is much more demanding and tends to have a low success rate. In the animal world this phenomenon occurs among invertebrates (e.g. lepidoptera, arachnids) and vertebrates alike. Kleptoparasitism among the mammals is typical for the beasts of prey, e.g. hyenas, wolves and bears. It is also practised by fish, and among birds there are some species which have this characteristic included in their very names, such as the arctic skua or parasitic jaeger (*Stercorarius parasiticus*), although other seabirds such as seagulls, terns, frigates or cormorants also use this feeding method, as well as members of other bird families such as waders (herons) and estuarines (oystercatchers, curlews). The songbirds using this approach are mainly the corvine species, but there are also others, even the common finch (*Frangilla coelebs*) (Glutz von Blotzheim 2000). Kleptoparasitism is also characteristic for raptors, some species robbing other kinds of raptor, but also members of other bird families, which has been reported in the case of white-tailed sea eagles

(*Haliaeetus albicilla*) (Tömösvári 1982, Straka 1992) or Saker falcons (*Falco cherrug*) (Braun & Lederer 1996). It also happens that certain raptor species practising this method may themselves be victims of food-stealing, for example by corvine birds or seagulls (see the case of the peregrine falcon, *Falco peregrinus*, in Zuberogoitia et al. 2002). Among the raptors living in Slovakia, we have observed Saker falcons being robbed by common buzzards (*Buteo buteo*) while consuming their hunting spoils on the ground (J. Mihók, J. Lipták, J. Chavko unpubl.). During monitoring of Saker falcons' winter habitat in the Danube Plain and Borská Lowlands between 1995 and 2005, frequent instances were recorded of common buzzards stealing prey from these falcons. On the other hand, during the nesting season several cases were observed in which Saker falcons stole prey (voles – *Microtus arvalis*) from kestrels (*Falco tinnunculus*) and red-footed falcons (*Falco vespertinus*) (J. Chavko).

Kleptoparasitism is also frequent among red-footed falcons themselves. They have been observed many times stealing voles from kestrels nesting in the same tree. The prey sometimes ends up in the talons of a third attacker, however. We have seen a kestrel flying with captured vole being attacked by a redfooted falcon. After an exhausting chase, the falcon finally managed to snatch the prey, only to be robbed of it in turn by a passing Saker falcon. A Saker falcon was once seen robbing a northern goshawk (*Accipiter gentilis*) of a gopher (*Spermophilus*

citellus) in full flight, and another was seen similarly taking a captured vole from a grey heron (*Ardea cinerea*). Sometimes it happens that both robbers end up preyless. A sparrowhawk (*Accipiter nisus*) which had caught a starling (*Sturnus vulgaris*) was immediately attacked by a Saker falcon. Just as the falcon was about to strike, however, the sparrowhawk released the still-living starling, which went to ground and hid amid some alfalfa (all observations by J. Mihók).

Kleptoparasitism among Imperial eagles is not so familiar or much studied – see for example Probst (2002), who observed an eagle taking food from a red kite (*Milvus milvus*). We have not been able to find any other data in the literature. Our observations suggest that this way of acquiring food is relatively common for these eagles, but getting evidence of this requires long-term observation of the birds' behaviour. During monitoring of the Imperial eagle population in Eastern Slovakia we have had several opportunities to observe instances of kleptoparasitism by this species, and we would like to bring these to our readers' attention in this article. Three examples comes from Western Slovakia too.

The observations are presented in chronological order:

1st April 1992 – in the Slovakian Karst a male Saker falcon (*Falco cherrug*) was observed hunting gophers. At the seventh attempt it caught a gopher, which was then taken by an Imperial eagle circling over the plateau. At that time there were two pairs of Imperial eagles nesting in the Volovské Hills beyond the plateau, so there was always at least one eagle hunting around its margins. After a further two attempts the falcon caught another gopher and tried to fly off with it to its nesting area. Another eagle then started chasing it, but after a long stretch, maybe 1.5 kilometres of attacking in level flight, it was ultimately unsuccessful. Later on, when the young eagles were bigger, both pairs could hunt together, and then the Saker falcons had even less chance of carrying their prey from the hunting grounds back to the nest. For this reason the young falcons were most likely to starve in the nest during the period when they needed sufficient food. As a consequence of the eagles' kleptoparasitism all the young falcons died in the nest (J. Lipták).

19th April 1992 – an adult male eagle was seen sitting in bushes in a meadow on the East Slovakian Plain, watching a female grey kite (*Circus cyaneus*) hunting. When the kite caught a vole and was trying

to fly off with it, the eagle immediately attacked her. After the first strike the kite dropped her prey, which the eagle then picked up from the ground and swallowed. This happened twice in succession. The whole operation was observed by two hooded crows (*Corvus corone cornix*) sitting in the same bushes as the eagle, and on his successful return they – with apparent envy – pulled at his tail with their beaks so intensively that he almost lost his balance (Š. Danko).

22nd April 1993 – a young male eagle in the Košice Basin robbed a marsh harrier (*Circus aeruginosus*) of the gopher it had caught (J. Mihók).

30th March 1995 – an immature female eagle in the Košice Basin robbed a buzzard (*Buteo buteo*) of its captured gopher (J. Mihók).

18th May 1995 – an adult female in the Košice Basin attacked a fox (*Vulpes vulpes*) running across a field with some voles in its mouth. The eagle swooped several times to strike the fox, which then dropped its catch and ran away. The eagle landed and swallowed the voles one after another (J. Mihók).

31st May 1995 – an adult male eagle in the Košice Basin robbed a marsh harrier of the vole it had caught (J. Mihók).

1996 – an Imperial eagle in the Košice Basin chased a Saker falcon sitting on the ground away from the pigeon (*Columba palumbus*) it had captured (J. Lipták).

9th June 1996 – an adult eagle in the Košice Basin robbed a kestrel of the young gopher it had caught (J. Mihók).

10th June 1996 – an adult eagle in the Košice Basin stole a pigeon from a Saker falcon (J. Mihók).

28th July 1996 – an adult eagle in the Košice Basin robbed four different Saker falcons of their gophers. The eagle spent the whole day riding thermals high above the gopher fields where four young Saker falcons were hunting. Every time a young falcon managed to catch a gopher, the eagle folded its wings and dropped headlong in attack. The falcon tried to escape with its prey, but then dropped the gopher in front of the rapidly approaching eagle. It took the young falcons several days to develop a different strategy. They started waiting till evening, when the thermals stopped and the eagle flew down to the fields. They could then finally consume the gophers they took, even though the eagle could see that their hunting was successful (J. Mihók).

8th June 1997 – an adult eagle circling at height over the margins of the Slovakian Karst attacked a male marsh harrier flying along with its prey. The

harrier dodged skilfully, and both raptors circled up to a great height with the eagle still attacking the kite, until it finally gave up the chase without success (J. Mihók).

17th May 2000 – an adult eagle in the Košice Basin pursued a Saker falcon which had caught a pigeon, finally snatching the prey just before the falcon reached its nest (J. Mihók).

1st March 2003 – a pair of Saker falcons in the Košice Basin caught two pigeons, but a pair of Imperial eagles flew in and robbed the falcons of their catch (J. Lipták, J. Mihók).

15th March 2003 – a pair of Saker falcons in the Košice Basin caught a pigeon, and were then attacked by an Imperial eagle. The male falcon succeeded in scaring off the eagle, which wanted to rob the female of the prey (J. Lipták).

16th March 2003 – a pair of Saker falcons caught a pigeon on the East Slovakian Plain, but a pair of Imperial eagles flew up, intending to take the food from them. They did not accomplish their intention, because they were scared off by humans (J. Lipták).

17th August 2003 – a peregrine falcon (*Falco peregrinus*) successfully attacked a flock of carrier pigeons in the Trnava Hills. Hardly had the falcon landed by the pigeon, however, preparing to eat it, than a female Imperial Eagle swooped in from her look-out perch and chased the falcon off the prey. The falcon left the pigeon without the slightest resistance. The eagle prepared the pigeon and carried it off to her young. (L. Prešinský).

10th February 2004 – a fox (*Vulpes vulpes*) was carrying a wild duck across fields in the Trnava Hills. A female eagle dropped on the fox in the middle of a clover patch, landed in front of it and jumped at it twice with widespread wings. The fox dropped the prey from its jaws and left it to the eagle, who was joined after a while by the male of the pair. He waited for the female to eat her fill, and then he too set on the remains of the duck. This spotting is interesting not only for the kleptoparasitism itself, but also because it provides evidence as to who is the dominant predator in the lowlands of southern Slovakia. It is the Imperial Eagle. (L. Prešinský).

9th January 2005 – a young male eagle on the Danube Plain not far from Bratislava dropped from the top of an acacia tree into the stubble of a maize field to force a female sparrowhawk away from her prey, an urban pigeon, and then started eating it. The sparrowhawk subsequently returned four times and attacked the eagle, but unsuccessfully. Around that time there were hundreds of urban pigeons in this

area, forming an important source of food for several kinds of raptor. Among these were three lone Imperial eagles, which would sit around for hours in the tree-tops watching for the opportunity to snatch prey from other hunting raptors (J. Chavko).

26th March 2003 – an adult male eagle on the East Slovakian Plain attacked a common buzzard carrying a vole in its talons. On being attacked the buzzard dropped the prey, which the eagle immediately consumed (Š. Danko).

Apart from kleptoparasitism by Imperial eagles, this practice may also be frequently observed among corvine species, which constantly mob the eagles in their hunting grounds or their nesting areas in the lowlands. These are principally magpies and crows, but also ravens and jackdaws, and on one occasion they were joined by a goshawk. Several times we have observed mainly magpies mobbing an eagle feeding on the ground, trying to steal its food to the extent of snatching it from the eagle's beak.

Kleptoparazitizmus (kradnutie potravy alebo koristi, cudzopasnosť alebo lepšie príživníctvo) je jednou z metód zaobstarania si potravy, keď jeden živočích ukradne koristi druhému, ktorý si ju chytil. Ak sa vzájomne okráda o potravu ten istý druh, považujeme to za vnútrodrohový kleptoparazitizmus. Ak dochádza k okrádaniu medzi jednotlivými druhmi považujeme to za medzidrohový kleptoparazitizmus. Stratégia kradnutia potravy je pre daného jedinca časovo a energeticky výhodnejšia, nemusí sa sám zaoberať samotným lovom, ktorý je oveľa náročnejší a často pri útokoch aj neúspešný. V živočíšnej ríši sa vyskytuje ako u bezstavovcov (napr. blanokridlovce, pavúky), tak aj u stavovcov. Vyskytuje sa aj u rýb, u vtákov sú to napr. pomorníky, z ktorých tú vlastnosť už majú niektoré aj v samotnom názve (*Stercorarius parasiticus* – pomorník príživný), ale využívajú ho napr. aj iné morské vtáky ako čajky, rybáre, fregaty, kormorány atď. Z iných radov vtákov ho využívajú aj niektoré druhy brodivcov (volavky) a bahniakov (lastúrniciar, hvizdák). Zo spevavcov to robia hlavne krkavcovité vtáky, z iných dokonca aj pinka obyčajná (Glutz von Blotzheim 2000). Z cicavcov sú to šelmy, napr. hyeny, vlky, medvede atď. Charakteristický je aj pre dravce, keď niektoré druhy okrádajú iné druhy dravcov, ale aj druhy z iných radov vtákov, čo bolo publikované napr. u orliakov (Tömösvári 1982, Straka 1992), alebo u sokola rároha (Braun & Lederer 1996). Na druhej strane ale aj niektoré druhy drav-

cov, využívajúce kleptoparazitizmus môžu byť aj obeťami kradnutia potravy napr. krkavcovitými vtákmi alebo čajkami (napr. sokol sťahovavý, *Falco peregrinus*, vid' Zuberogoiita et al. 2002). Z u nás žijúcich dravcov sme pozorovali okrádanie sokolov rárohov myšiakmi lesnými (*Buteo buteo*), pokiaľ rárohy konzumovali ulovenú potravu na zemi (J. Mihók, J. Lipták, J. Chavko unpubl.) V priebehu monitoringu zimovísk sokola rároha (*Falco cherrug*) v Podunajskej rovine a Borskej nížine v rokoch 1995 až 2005 boli zaznamenané časté prípady, kedy myšiaky lesné (*Buteo buteo*) ukradli korisť sokolom rárohom. Naopak v hniezdnom období boli zas pozorované viaceré prípady, keď sokoly rárohy kradli korisť – hraboše sokolom myšiárom (*Falco tinnunculus*) a sokolom červenonohým (*Falco vespertinus*) (J. Chavko).

Kleptoparazitizmus je častý aj u sokola červenonohého (*Falco vespertinus*). Veľakrát bol pozorovaný ako obral sokola myšiara, hniezdiaceho na tom istom strome, o hraboša. Korisť ale niekedy skončí v pazúroch až tretieho útočníka. Sokol myšiár letel s uloveným hrabošom. Napadol ho sokol červenonohý a po úmornej naháňačke ho nakoniec obral o korisť. Ihneď nato však prilietel sokol rároh a obral zase sokola červenonohého. Raz bol pozorovaný sokol rároh (*Falco cherrug*) ako obral jastraba veľkého (*Accipiter gentilis*) letiaceho so sysľom počas letu, v druhom prípade obral rároh volavku popolavú (*Ardea cinerea*) o uloveného hraboša keď s ním vzlietla. Niekedy ale vyjdú obaja okrádači naprázdno. Jastrab krahulec (*Accipiter nisus*) chytil škorca a bol okamžite napadnutý sokolom rárohom. Rároh ho rýchlo dohonil, ale tesne pred tým krahulec ešte živého škorca pustil, ktorý sa skryl na zemi do porastu lucerny (všetky pozorovania J. Mihók).

Kleptoparazitizmus u orla kráľovského je málo známy a preskúmaný, vid' napr. Probst (2002), ktorý pozoroval odobratie potravy od haje červenej. Viac literárnych údajov sa nám nepodarilo nájsť. Podľa našich pozorovaní je tento druh zaobstarania si potravy u tohto orla pomerne bežný, vyžaduje však dlhodobé pozorovanie správania sa vtákov. Počas monitoringu východoslovenskej populácie orlov kráľovských sme v niekoľkých prípadoch mali možnosť pozorovať kleptoparazitizmus u tohto druhu, s čím by sme chceli oboznámiť čitateľov v tomto článku. Tri údaje pochádzajú aj zo západného Slovenska.

Pozorovania sú uvedené v chronologickom poradí:

1. 4. 1992 – v Slovenskom krase bol pozorovaný samec sokola rároha (*Falco cherrug*) pri love sysľov. Po 7 útokoch chytil sysľa, ktorého mu zobral orol kráľovský, krúžiaci nad planinou. V tom čase za planinou vo Volovských vrchoch hniezdili 2 páry orlov kráľovských, takže na okraji planiny bol vždy 1 alebo viac loviacich orlov. Po ďalších 2 útokoch chytil rároh zase sysľa a snažil sa s ním odletieť na hniezdisko. Vtedy ho začal naháňať ďalší orol počas dlhého, asi 1,5 km vodorovne vedeného útoku, ktorý bol napokon neúspešný. Neskoršie keď orly mali väčšie mláďatá, mohli oba páry loviť a tak vtedy rároh mal len malú šancu doniesť korisť z loviska až na hniezdo. Z tohoto dôvodu mláďatá rárohov na hniezde najviac hladovali práve v období, keď potrebovali dostatok potravy. V dôsledku kleptoparazitizmu orlov napokon všetky mláďatá na hniezde uhynuli. (J. Lipták).

19. 4. 1992 – dospelý samec orla sedel na kroví v lúke na Východoslovenskej rovine a pozoroval loviacu samicu kane sivej (*Circus cyaneus*). Keď kaňa ulovila hraboša a pokúšala sa s ním odletieť, orol ju okamžite napadol. Kaňa po útoku pustila svoju korisť, ktorú orol vzápätí zobral zo zeme a zhltol. To sa opakovalo dva razy za sebou. Celú akciu sledovali dve vrany (*Corvus corone cornix*), ktoré sedeli na tom istom kroví ako orol a po jeho úspešnom návrate ho zrejme zo závidosti tak intenzívne ťahali zobákmi za chvost, že strácal rovnováhu (Š. Danko).

22. 4. 1993 – mladý samec orla v Košickej kotline obral kaňu močiarnu (*Circus aeruginosus*) o uloveného sysľa (J. Mihók).

30. 3. 1995 – imaturná samica orla v Košickej kotline okradla myšiaka (*Buteo buteo*) o uloveného sysľa (J. Mihók).

18. 5. 1995 – dospelá samica útočila na líšku (*Vulpes vulpes*) v Košickej kotline, ktorá bežala po poli s hrabošmi v papuli. Orlica útočila na ňu náletmi. Po viacerých náletoch líška vypustila hraboše a utiekla. Orol zosadol a všetky hraboše po jednom prehltol (J. Mihók).

31. 5. 1995 – dospelý samec orla v Košickej kotline obral kaňu močiarnu (*Circus aeruginosus*) o uloveného hraboša (J. Mihók).

1996 – orol kráľovský v Košickej kotline odohnal na zemi sediaceho rároha (*Falco cherrug*) z uloveného holuba (J. Lipták).

9. 6. 1996 – dospelý orol v Košickej kotline okradol sokola myšiara (*Falco tinnunculus*) o uloveného mladého sysľa (J. Mihók).

10. 6. 1996 – dospelý orol v Košickej kotline obral sokola rároha (*Falco cherrug*) o holuba (J. Mihók).

28. 7. 1996 – dospelý orol v Košickej kotline 4x obral mladé sokoly rárohy (*Falco cherrug*) o sysle. Orol celý deň lietal v termike vysoko nad syst'oviskom, na ktorom lovili 4 mladé rárohy sysle. Vždy keď sa mladému rárohovi podarilo sysľa uloviť orol stiahol krídla a strmhlav zaútočil. Rároh sa snažil s korisťou uniknúť, ale nakoniec sysľa vypustil pred rýchle sa približujúcim orlom. To trvalo niekoľko dní, kým mladé rárohy prišli na inú stratégiu. Počkali do večera, keď ustala termika a orol zletel na pole. Potom už konečne mohli ulovené sysle skonzumovať aj napriek tomu, že orol videl ich úspešný lov (J. Mihók).

8. 6. 1997 – dospelý orol krúžiaci vo výške na okraji Slovenského krasu napadol sameca kane močiarnej (*Circus aeruginosus*) letiaceho s potravou. Kaňa sa šikovne uhýbala a oba dravce počas napádania kane orlom vykrúžili do veľkej výšky, až kým orol od bezúspešného napádania upustil (Š. Danko).

17. 5. 2000 – dospelý orol v Košickej kotline prenasledoval rároha (*Falco cherrug*) s uloveným holubom, o ktorého ho nakoniec obral tesne pred priletom k hniezdu (J. Mihók).

1. 3. 2003 – pár sokolov rárohov (*Falco cherrug*) v Košickej kotline ulovil 2 holubov, ale priletel pár orlov kráľovských a sokolom ukradli ich úlovok (J. Lipták, J. Mihók).

15. 3. 2003 – pár rárohov (*Falco cherrug*) chytil holuba v Košickej kotline, na ktorý zaútočil orol kráľovský. Samcovi rároha sa orla podarilo odplašiť, ktorý chcel zobrať samici ulovenú korisť (J. Lipták).

16. 3. 2003 – pár rárohov (*Falco cherrug*) chytil holuba na Východoslovenskej rovine, ale priletel pár orlov kráľovských a chcel im zobrať potravu. Úmysel sa im nepodaril, lebo bol odplašený človekom (J. Lipták).

17. 8. 2003 – sokol sťahovavý (*Falco peregrinus*) úspešne zaútočil na kúdeľ poštových holubov v Trnavskej pahorkatine. No sotva k holubovi pristál, aby ho očistil a skonzumoval, priletel nízkym letom zo sediska orol kráľovský a sokola z koristi odohnal. Sokol opustil holuba bez najmenších známkov odporu. Orlica holuba očistila a odniesla mláďatám (L. Prešinský).

10. 2. 2004 – liška (*Vulpes vulpes*) niesla cez polia v Trnavskej pahorkatine divú kačicu. Uprostred ďateliniska sa k nej spustila orlica, pristála pred liškou a s rozťahnutými krídlami do lišky dvakrát skočila. Liška vypustila z papule korisť a nechala ju orlici, ku ktorej po chvíli priletel aj samec z páru. Čakal, kým sa orlica nažrala, potom sa do zvyškov

kačice pustil aj on. Toto pozorovanie okrem samotného kleptoparazitizmu je zaujímavé aj tým, že je svedectvom toho, kto je dominantným predátorom na nížinách južného Slovenska. Je to orol kráľovský (L. Prešinský).

9.1. 2005 – mladý samec orla neďaleko Bratislavy (Podunajská rovina) sa spustil z vrcholca agáta do kukuričného strniska, kde z koristi – mestského holuba odohnal samicu krahulca (*Accipiter nisus*) a sám ju začal konzumovať. Samica krahulca sa potom ešte 4 x vrátila a zaútočila na orla, ale neúspešne. Na tejto lokalite sa v tom období vyskytovali stovky mestských holubov, ktoré boli dôležitým potravným zdrojom pre viaceré druhy dravcov. Medzi nimi sa tu vyskytovali 3 jedince orla kráľovského, ktoré dlhé hodiny vysedávali na vrcholoch stromov a sledovali potenciálnu možnosť získania koristi od iných loviacich dravcov (J. Chavko).

26. 3. 2005 – dospelý samec orla na Východoslovenskej rovine napadol myšiaka (*Buteo buteo*), nesúceho hraboša v pazúroch. Ten ho po útoku pustil a orol úlovok hneď skonzumoval (Š. Danko).

Popri kleptoparazitizme orlov kráľovských často možno pozorovať kleptoparazitizmus krkavcovitých vtákov, ktoré na orly v ich loviskách alebo na hniezdiskách v nížinách vždy dobiedzajú. Sú to predovšetkým straky a vrany, ale aj krkavce i kavky, v jednom prípade bol pozorovaný aj jastrab veľký. Viac krát sme pozorovali najmä straky, ako dobiedzali na orla, kŕmiaceho sa na zemi a kradli mu z potravy niekedy tak, že mu ju strhávali až zo zobáka.

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