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NEW INFORMATION ON THE PREDATION OF FISH EATING BIRDS BY THE EURASIAN OTTER (*Lutra lutra*)

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Abstract: The Eurasian Otter (*Lutra lutra*) mainly eats aquatic and semiaquatic prey (such as fish, crabs, amphibians and snakes), although in some places, and at some times, mammals, birds and insects can represent a significant part of the diet. A meticulous review of the literature shows a few cases of otters preying on large birds. Three cases are examined: a heron killed and eaten by a wild otter in the Pyrenees, gulls killed and eaten by an escaped otter near Barcelona, and a red kite caught by a captive otter, but rescued by staff, at the Pont de Suert otter centre in the Pyrenees. Further research is needed to establish whether otters are superpredators of birds and play a role in population control.

The Eurasian otter (*Lutra lutra*) feeds mainly on fish in the wild, but amphibians and other types of prey, including birds, can be important in certain areas or times of the year. In most regions of Europe, including the Mediterranean area, ducks (*Anas*, especially *A. plathyrhynchos*), Moorhen (*Gallinula chloropus*) and small songbirds are the types of bird most frequently consumed, although usually to a very small degree in overall proportionate terms (see summary in RUIZ-OLMO and PALAZÓN, 1997). A detailed study of available literature (e.g. see summaries in MASON and MACDONALD, 1986; KRUUK, 1995) shows that the Eurasian Otter does not regularly consume predatory birds. GREEN (2000) provides some interesting data showing that pheasants (*Phasianus colchicus*), wrens (*Trogoldytes troglodytes*), song thrushes (*Turdus philomelos*), geese (*Anser* sp.) and gulls (*Larus* sp.) were all caught and eaten by otters (*Lutra lutra*) in captivity, and that Crows (*Corvus corax*) and Grey Heron (*Ardea cinerea*) were chased off whilst attempting to steal their fish. These data show *L. lutra* is capable of catching relatively large birds (on occasions weighing up to several kg), although these birds are generally non-predatory. At most, according to general opinion, the otter just scares such predatory birds off because they compete for food, although in one case a Yellow-legged Gull (*L. argentatus*) was caught. This gull is an aggressive species, capable of catching large prey, stealing prey (kleptoparasitism), and strongly defending itself. For example, POLECHLA et al. (1993) reported cases of a Mew Gull (*Larus canus*) attacking *Lontra canadensis*, but it was also pointed out that this was probably related to kleptoparasitic behaviour. According to these authors, three other species: the Common Crow, the Bald Eagle (*Haliaetus albicilla*) and the Osprey (*Pandion haliaetus*), act in the same way towards this species of otter.

In this report, we highlight some more interesting data on otters preying on ichthyophagous predators:

1. The first case refers to a Grey Heron, apparently caught and eaten near the Noguera Ribagorçana River (Pyrenees, Lleida, Spain) in February 1990. In mid-winter, an adult sized heron corpse was found five metres from the riverbank next to a large rock, where it had apparently either been caught or dragged by the otter. Wounds on the heron were compatible with an Otter attack. Otter tracks (probably of a male) found in the mud led away from the river and surrounded the grey heron (which had been pulled from the water). Part of the heron's pectoral muscle mass had been eaten and the area was strewn with feathers that showed the typical feather bite of a carnivore. This, together with one dropping on top of the heron carcass, certainly suggests an otter was responsible. The harsh mid-winter climate,

combined with the difficulty of catching food, may have weakened the heron, making it easier to catch. No other occurrence such as this has been reported during 18 years of *L. lutra* studies in Spain and no heron remains have been found in thousands of analysed droppings.

2. One otter, from a reintroduction project in NE Spain, escaped from an enclosure in the town of Barcelona. This animal was living completely free for some weeks (January and February 1996) in the Ciutadella Park (Deli Saavedra & Jordi Ruiz-Olmo, unpublished). The otter intensively used two artificial lakes where several species of fish provided plentiful food. Many gulls and a population of more than 300 ducks also inhabited these waters (with daily population fluctuations). During a survey conducted on a more isolated island (used by ducks and other birds for resting and sleeping), we found the remains of more than 10 birds, some of them uneaten. It was clear that a carnivore killed the birds as both tooth wounds were found in necks and other parts and the feathers were bitten and broken in a typical manner. The otter was the only animal that could have killed the birds as no dogs or cats, etc, could reach the island (otter spraints were also found). Of these birds, two were Common Black-headed Gulls (*L. ridibundus*) and one a Yellow-legged Gull (*L. cachinnans*).

3. Another interesting piece of data refers to a Red Kite (*Milvus milvus*) that was attacked by a captive otter at the otter centre in Pont de Suert (Pyrenees, Lleida) on 11 August 1999. Kites often enter the otter enclosures to steal fish remains. In this particular case, the otter was fast enough to catch the kite by its wing, which broke. The bird barely managed to escape when centre personnel rescued it and took it to a recovery centre. In this otter centre, otters fairly frequently attack different species of winged predators (herons, kites, and crows) that come to eat their fish. Although this could be a captivity-induced behaviour pattern, the otter captured the kite relatively easily, suggesting that such birds could certainly be caught in the wild.

It has been noted that otters tend to catch and eat ichthyophagous and crayfish-eating birds from similar families (TILER et al., 1994). Predatory birds can often be found eating together when they take advantage of foraging otters, as has been shown in the case of *L. perspicillata* (KRUUK et al., 1993). Further, cases where predatory birds (especially small and medium-sized water birds) have been attacked by otters have tended to occur in places where they live close to large bird colonies, as when *L. canadensis* was reported catching gulls, terns and petrels (FOOTTIT and BUTLER, 1977; POLECHLA et al., 1993; CAMERON, 1995). Attacks on gulls are frequent in these areas, although they are normally limited to an attack followed by the rapid escape of the gull (personal observation in Alaska; see photograph). In certain circumstances (surprise, weakness of the bird being attacked, etc.), otters may, however, catch larger and more aggressive birds (as in the cases of the heron and kite reported earlier). The sea otter (*Enhydra lutris*) occasionally feeds on predatory birds, such as cormorants, gulls, grebes, teals and fulmars, resting on the water surface (RIEDMAN and ESTES, 1988), possibly as the otter's larger size and more pelagic habits make such birds easier to catch.
If we discount the possible effects of captivity, there are a number of hypotheses as to why such birds should be caught by the otter in the wild, including the chasing, and occasional catching, of competitors, or actual hunting for food. However, in many cases, this would entail a high outlay of energy and entail some risk to the otter, probably accounting for the fact that they are only rarely taken. Perhaps all these data represent only single incidents, without great relevance; indeed, very few records are found in the literature. However, the data above are interesting, bearing in mind that they may be situations involving cases of super-predation (one predator killing competing predators, which may contribute to their regulation and thereby to the conservation or increase in the stock of available prey). This mechanism has been reported in some other species of predators. For example, PALOMARES et al. (1995) showed that the Iberian lynx (*Lynx pardellus*) kills other carnivores (red fox, *Vulpes vulpes*, mongoose, *Herpestes ichneumon*, and genet, *Genetta genetta*) that prey on rabbit (the usual prey of the lynx), without actually eating them, resulting in a simultaneous increase in the abundance of rabbits. This could also be the case with otters, where its role as a super-predator, feeding on fish eaters or fish egg eaters (e.g. crayfish, amphibians, water snakes (*Natrix* ssp.) and predatory fish) has been highlighted in previous studies (RUIZ-OLMO and CASADESUS, 1998; RUIZ-OLMO, 2001). The isolated data presented above (in addition to similar reports made by GREEN, 2000), showing that otters can attack and kill medium and large-sized ichthyophagous birds, may also provide evidence of this type of behaviour. Given that this type of behaviour is infrequently observed and difficult to establish, it is possible that it has been overlooked in the past. There is evidently a lack of information on this matter and more data will be needed in the future if super-predation on ichthyophagous birds is to be confirmed.

REFERENCES

Cameron, A. 1995. Apparent River Otter Predation at an Aleutian Tern Colony. *Colonial Waterbirds* **18**, 91-92.

Foottit, R.G., Butler, R.W. 1977. Predation on nesting Glaucous-winged Gulls by river otter. *Can. Field-Nat.* **91**, 189-190.

Green, R. 2000. Avian predation by captive otters. *IUCN Otter Spec. Group Bull.* **17**, 83.

Kruuk, H. 1995. Wild Otters. Predation and Populations. Oxford University Press. Oxford. 304 pp.

Kruuk, H., Kanchanasaka, B., O'Sullivan, S., Wanghongsa, C. 1993. Kingfishers *Halcyon capensis* and *Alcedo athis* and Pond-Heron *Ardelola bacchus* associating with otters *Lutra perspicillata*. *Nat. Hist.Bull. Siam Soc*. **41**, 67-68.

Mason, C.F., Macdonald, S.M. 1986. Otters. Ecology and Conservation. Cambridge Univ. Press. 236 pp.

Palomares, F., Gaona, P., Ferreras, P., Delibes, M. 1995. Positive effects on game species of top predators by controlling smaller predator populations: An example with lynx, moongooses, and rabbits.*Cons. Biol*. **9**, 295-305.

Polechla, P., Aiaginar, Y.-J., Whiteman, S. 1993. Agonistic behaviour of a mew gull (*Larus canus*) towards a nearctic river otter (*Lontra canadensis*) in Western Alaska. *The River Otter Journal*, **3**, 1-2.

Riedman, M.L., Estes, J.A. 1988. Predation on seabirds by sea otters. *Can. J. Zool*. **66**, 1396-1402.

Ruiz-Olmo, J. 2001. Pla de Conservació de la Llúdriga: Biologia i Conservació. *Documents dels Quaderns del Medi Ambient* **6**, 1-87.

Ruiz-Olmo, J., Casadesús, F. 1998. Effects of the otter on sport fishing in the Pyrenean Mountains (North-East Spain). BOKU-Rep. *Wildl. Res. & Game Manag*. **14,** 35-36.

Ruiz-Olmo, J., Palazón, S. 1997. The diet of the European otter (*Lutra lutra* L.) in Mediterranean freshwaters habitats. *J. Wildl. Res.* **2**, 171-181.

Tiler, C., Evans, M., Heardman, C., Houghton, C. 1994. Diet of the smooth-coated indian otter (*Lutra perspicillata*) and of fish eating birds: a field survey. *J. Bombay Nat. Hist. Soc.* **86**,65-70.

RÉSUMÉ : INFORMATION NOUVELLE SUR L'ORNITHOPHAGIE DE LA LOUTRE (*Lutra Lutra*): LA CONSOMMATION D'OISEAUX PREDATEURS

La loutre eurasienne (*Lutra lutra*) se nourrit principalement de poissons et d'écrevisses, bien qu'amphibiens ou autres catégories de proies puissent représenter, localement ou saisonnièrement, une part importante du régime de l'espèce. *L. lutra* est apte, à certaines périodes, de capturer des oiseaux de grande taille (pesant jusqu'à plusieurs kg), mais généralement non-prédateurs. Une revue minutieuse de la littérature montre que la loutre eurasienne ne consomme pas régulièrement les oiseaux prédateurs (MASON and MACDONALD, 1986; KRUUK, 1995). C'est également vrai sur le pourtour méditerranéen, ou canards (g. *Anas*, notamment *A. plathyrhynchos*), poules d'eau (*Gallinula chloropus*) et autres sont les catégories d'oiseaux les plus fréquemment consommées, bien que leur proportion soit toujours globalement très faible dans le régime (c.f. résumé de RUIZ-OLMO et PALAZON, 1997). Le présent article rapporte ici quelques cas intéressants de prédation d'oiseaux ichtyophages chez la loutre.

RESUMEN: NUEVAS INFORMACIONES SOBRE LA DEPREDACIÓN DE AVES POR LA NUTRIA EUROASIÁTICA (*Lutra lutra*): COSUMO DE DEPREDADORES

Las nutrias consumen usualmente especies acuaticas y semiacuaticas (especialmente peces, cangrejos, anfibios, culebras de agua), aunque a veces también pueden consumir mamíferos, insectos y aves. El trabajo recoje la bibligrafía existente de consumo de grandes aves (a veces depredadoras) y de interacciones con estas por las dierentes especies de nutrias del Mundo. Se revisan diferentes tipos de comportamiento (desde comensalismo o cleptoparasitismo, hasta la propia depredación). Se presentan tres casos de este tipo: una garza real (*Ardea cinerea*) muerta por una nutria en un río Pirenaico, un milano real (*Milvus milvus*) salvaje atacadao por una nutria captiva en el Centro de nutrias del Pont de Suert (que resultó herido y con un ala rota y sólo pudo ser salvado por el personal del centra), y varias gaviotas (*Larus cachinnans*, *Larus ridibundus*) muertas por una nutria salvaje en un parque urbano de Barcelona. Se discute el posible efecto beneficioso que la superdeprdación puede tener sobre las presas de la nutria.