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REVIEW ARTICLE

An Overview on *Lutra lutra*

Seyed Parsa Mousavi¹, Mohammad Mahdi Ramzanipour¹ and Mohammad Forouhar Vajargah^{2*}

¹Department of Environmental Sciences and Engineering, Faculty of Natural Resources, University of Guilan, Sowme Sara, Guilan, Iran

²Department of Fisheries, Faculty of Natural Resources, University of Guilan, Sowme Sara, Guilan, Iran

Abstract

European Otter (*Lutra lutra*), is an aquatic and semi-aquatic animal from the carnivores and sub-family from Lutrinae of the Mustelidea family that lives alongside rivers and wetlands. *Lutra lutra* is an indicator species, and its loss somehow threatens human life, because one species is the head of the food chain and its loss is a sign of environmental degradation of other species. It has good distribution in Iran and the world, including Eurasia and North Africa. *Lutra lutra* has appearance characteristics such as a large body, cylindrical shape, a wide snout with long and thick mustaches, small ears and eyes, the tail is long and tubular, which at the base becomes wide and thick, the hands and feet are short and there is a curtain among the fingers, the hair is soft and dense, brown to brownish, under the chin and white throat. In recent years, widespread deaths have occurred in several aquatic mammal populations, which has reduced the population of *Lutra lutra* compared to the past. Due to various reasons such as loss of prey, indiscriminate hunting, contamination caused by agricultural pesticides, especially chlorine toxins, industrial pollution, and floods, its population is rapidly declining and has been totally destroyed in some areas.

Introduction

Miankaleh wetland is the habitat of near threatened species such as *Lutra lutra* and endangered species such as *Phoca caspica*. Lavandvill wildlife refuge is located in Astara city in Guilan province, which includes various aquatic and dry habitats for animals. 125 species of animals have been identified in the region, the most important of which are mammals such as *Lutra lutra* and *Phoca caspica*. *Lutra lutra* is the scientific name of the European Otter, an aquatic and semi-aquatic animal from the carnivores and sub-family from the Lutrinae of the Mustelidea family that lives alongside rivers and wetlands. The beast swims skillfully, is very playful, and becomes aggressive in times of danger. *Lutra lutra* is an indicator species, and its loss somehow threatens human life, because one species is the head of the food chain and its loss is a sign of environmental degradation of other species. The presence of this species has been reported in different regions of Iran such as Tehran, Guilan, Mazandaran, Gorgan, Isfahan, Fars, Khuzestan, Azerbaijan and Lorestan. Its habitat is around rivers, streams, irrigation canals, lakes, wetlands, and fish farming pools with suitable vegetation and its dispersion from Sistan to north Khorasan, Mazandaran to Azerbaijan, Kurdistan to Khuzestan, Fars, Chaharmahal, Isfahan and Tehran and its global spread, Europe, North Africa, Asia [1].

Aquatic mammal due to their position at the top of the food chain, aquatic mammals have the potential to deposit heavy metals and trace

*Corresponding author(s)

Mohammad Forouhar Vajargah,
Department of Fisheries, Faculty of
Natural Resources, University of Guilan,
Sowme Sara, Guilan, Iran

Email: mohammad.forouhar@yahoo.com


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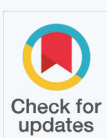
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- *Lutra lutra*

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elements in their tissues. In recent years, widespread deaths have occurred in several populations of aquatic mammals [2,3]. Hence, there are some concerns about side effects caused by the effect of trace elements and their accumulation in marine mammals [4,5]. Miankaleh wildlife refuge is located in the central part of Miankaleh wetland, which is located southeast of the Caspian Sea and connects to the Caspian Sea by a narrow channel from its northeast end. The Caspian Sea is the largest lake in the world [6-8]. Which is restricted from the south to Iran, to the north to Russia, to the west to Russia and the Republic of Azerbaijan, and to the republics of Turkmenistan and Kazakhstan in the east. About 130 rivers flow into the sea, most of which join the sea from the northwest [9,10]. The largest is the Volga River, which enters the Caspian Sea with an average of 241 cubic kilometers of water each year [11-13] The closed nature of the Caspian has made it a unique habitat for animals and plants, but at the same time makes it very vulnerable to agricultural, industrial and oil pollution [14,15].

Distribution of *Lutra lutra* Iran

As mentioned above, the presence of this animal has been reported in the regions of Sistan to the north of Khorasan, Mazandaran to Azerbaijan, Kurdistan to Khuzestan, Fars, Chaharmahal, Isfahan, Tehran, and Lorestan (Figure 1).

Distribution of *Lutra lutra* in the world

The *Lutra lutra* is the most widely distributed otter species, its range including parts of Asia and northern Africa, as well as being spread across Europe, south to Palestine. Though currently thought to be extinct in Liechtenstein and Switzerland, it is now common

in Latvia, along the coast of Norway, in the western regions of Spain and Portugal, and across Great Britain and Ireland. In Italy, it lives in the southern parts of the peninsula [16]. In Syria, the Eurasian otter was recorded in montane creeks in Latakia and Raqqa Governorates and in the lower Euphrates valley in Deir ez-Zor Governorate [17]. In western Nepal, its presence was documented at elevations of around 1,600 m (5,200 ft) in Barekot River in Jajarkot District and at 1,337 m (4,386 ft) in Tubang River in Eastern Rukum District [18]. In India, it is distributed in the Himalayan foothills, southern Western Ghats, and the central Indian landscape [19] (Figure 2).

Classification

Table 1 illustrates the classification.

Specifications

It has a large body, cylindrical shape, a wide snout with long and thick mustaches, small ears and eyes, the tail is long and tubular, which at the base becomes wide and thick, the hands and feet are short and there is a curtain among the fingers, the hair is soft and dense, brown to brownish, under the chin and white throat (Figure 3).

Sizes: The sizes are head and trunk length 62 to 83



Figure 1 *Lutra lutra* distribution map of Iran.

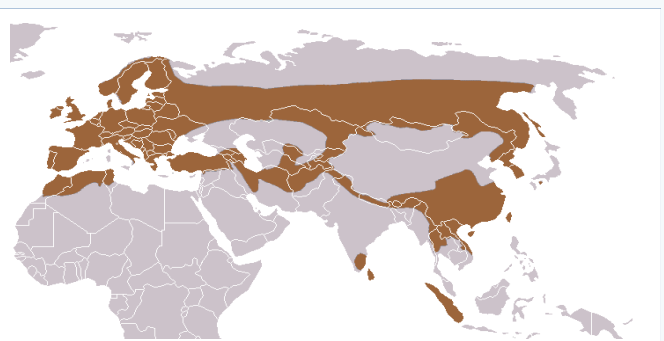


Figure 2 *Lutra lutra* distribution map of the world.

Kingdom	Animalia
Phylum	Chordata
Class	Mammalia
Order	Carnivora
Family	Mustelidae
Subfamily	Lutrinae
Genus	<i>Lutra</i>
Species	River otter

cm, tail 36 to 55 cm, height 30 cm, and weight 5 to 15 kg.

Habitat: The Otter prefers shallow, narrow areas of streams surrounded by mature trees and with rocks [20], around rivers, streams, irrigation canals, lakes, wetlands, and fish farming pools with suitable vegetation (Figure 4).

Habits: *Lutra lutra* is a night animal that operates day and night if it sees the area safely. They live individually and nest in natural holes in rocks, holes in trees, and under the roots of trees by the water. The nest entrance door is usually located in the water and at a depth of 50 centimeters above the water surface, which is connected to the nest by a sloping corridor, a ventilation hole connects the nest outwards. Sometimes inside the nest. In addition to the permanent nest, it may also have a temporary nest under the rocks and plants. He walks well on the ground, but no more than a few hundred meters away from his nest. With perfect skill, he swims and dives by the tail and with the help of his legs. To balance, the hands stick to the chest and act like commands. It can remain underwater for 10 minutes, but under normal conditions, the time to go underwater is one to two minutes. The underwater, holes in the ears and the head are blocked. Mustaches are very sensitive and use them in darkness or muddy water to swim well and feel turbulence in the water. The sense of smell and hearing is strong, the vision is relatively weak, but underwater and in the lights of your brain. They walk kilometers on land to access new food supplies. They are well educated; in some countries, they train these animals for fishing [8].

Food: European Otters feed on aquatic animals such as fish, frogs, crabs, small mammals such as veal, aquatic birds especially coots, ducks, eggs and chickens, insects, and plant materials. It takes food by mouth. The traces of feces and food residues are seen in certain areas of rivers and streams indicating the presence of this animal in the region. Inside the stool that smells like fish, there are usually fish bones (Figure 5).

Reproduction

Mating is able in all seasons, but mating is usually done in winter. The pregnancy lasts about two months. One to five babies are born in each pregnancy. Children's eyes open at one month of age. After two months, they leave the nest and start swimming. They

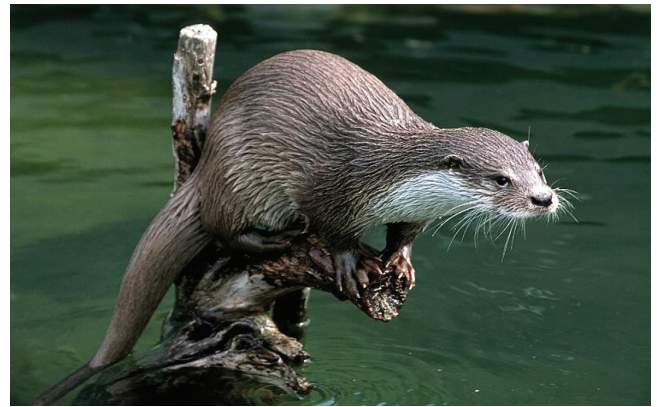


Figure 3 The European Otter.



Figure 4 The *Lutra lutra*.

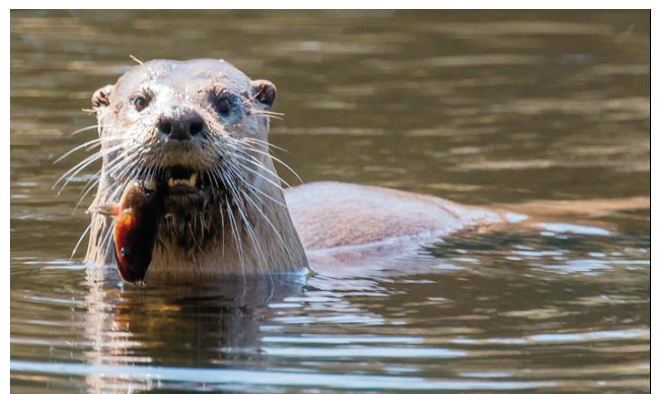


Figure 5 Hunting fish by *Lutra lutra*.

depend on their mother until they're six months old. They reach puberty at one year of age. The lifespan in captivity is about 22 years [6] (Figure 6).

Current status of the species

Due to various reasons such as loss of prey, indiscriminate hunting, and contamination caused by agricultural pesticides, especially chlorine toxins, industrial pollution and floods, its population is rapidly declining and has been totally destroyed in



Figure 6 An Eroupe Otter family.

some areas. By the late 1960s, thousands of pieces of the animal's skin, which had been hunted in different parts of the country, especially around Khuzestan Rivers and wetlands, were exported abroad. Currently, the highest population of *Lutra lutra* is observed in wetlands and rivers in the north and west of the country, but in southern regions, especially Khuzestan wetlands such as Hour AlAzim and Shadegan, its population has been greatly reduced. *Lutra lutra* is an indicator species, and its loss somehow threatens human life, because one species is the head of the food chain and its loss is a sign of environmental degradation of other species. Some fish farms in Iran deliberately open up the outlet of water from which dirty and excess water comes out so that *Lutra lutra* can come to eat the baby fish that comes out with this water and then they kill the animal for its precious skin [9].

One of the methods of catching this species used by hunters is pouring chlorine into the water. The bodies of the fish and *Lutra lutra* would come over the water. European Otter's nest hole is not normally visible and is enclosed between the grasses. Overgrazing of livestock also causes the loss of vegetation of river cover and loss of refuge for the animal and is more susceptible to predators. Creating stress and noise, noise pollution, and allowing tourists to access the area who come to the river bank in addition to disturbing the safety of the animal's life, unfortunately, leaving all kinds of waste in the environment. The effect of the road on disrupting the life balance of this animal is quite evident and can be easily proved even with statistical equations. Unfortunately, this species is currently on the Red Book List of the World Union for Conservation of Nature (I.U.C.N) Medicine.

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