

## SHORT NOTE

### PHOTOGRAPHIC RECORD OF EURASIAN OTTER *Lutra lutra* (LINNAEUS, 1758) IN ODISHA, INDIA

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**Abstract:** The Eurasian otter (*Lutra lutra*) is a rare and lesser-known top predator of the aquatic ecosystem in India. A Eurasian otter was photographed on 9 July 2021 in a village in the Sundargarh forest division in the state of Odisha during a biodiversity survey. This record is an important addition to the currently limited information available for species distribution in the state of Odisha as well as in India. Further study is warranted to assess the genetic and demographic resilience of the population.

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### INTRODUCTION

The Eurasian otter (*Lutra lutra*) is one of the most widely distributed Palearctic mammals with a geographical range from Ireland in Western Europe to the Kamchatka Peninsula in eastern Asia, from the Arctic region to north Africa and as far as south as Sumatra and Indonesia in Southeast Asia (Mason and Macdonald, 1986). The Eurasian otter is a semi-aquatic mammal, a top predator in the aquatic ecosystem, and plays a crucial role in the functioning of these systems (Mason and Macdonald, 1986). The Eurasian otter inhabits a wide variety of aquatic environments, including rivers, streams, lakes, swamp forests and coastal areas (Mason and Macdonald, 1986). This species is more vulnerable to loss and degradation of habitats, as currently, wetlands are amongst the most threatened and vanishing ecosystems worldwide (Davidson, 2014). Other threats are human persecution, persistent organic pollutants, and fish community alternations due to over-fishing (Roos et al., 2015; Buglione et al., 2020). Despite its broad distribution, the species is currently categorized as “Near Threatened” by the International Union for the Conservation of Nature (IUCN), owing to population decline in the last three generations or 23 years (Roos et al., 2015). The Eurasian otter

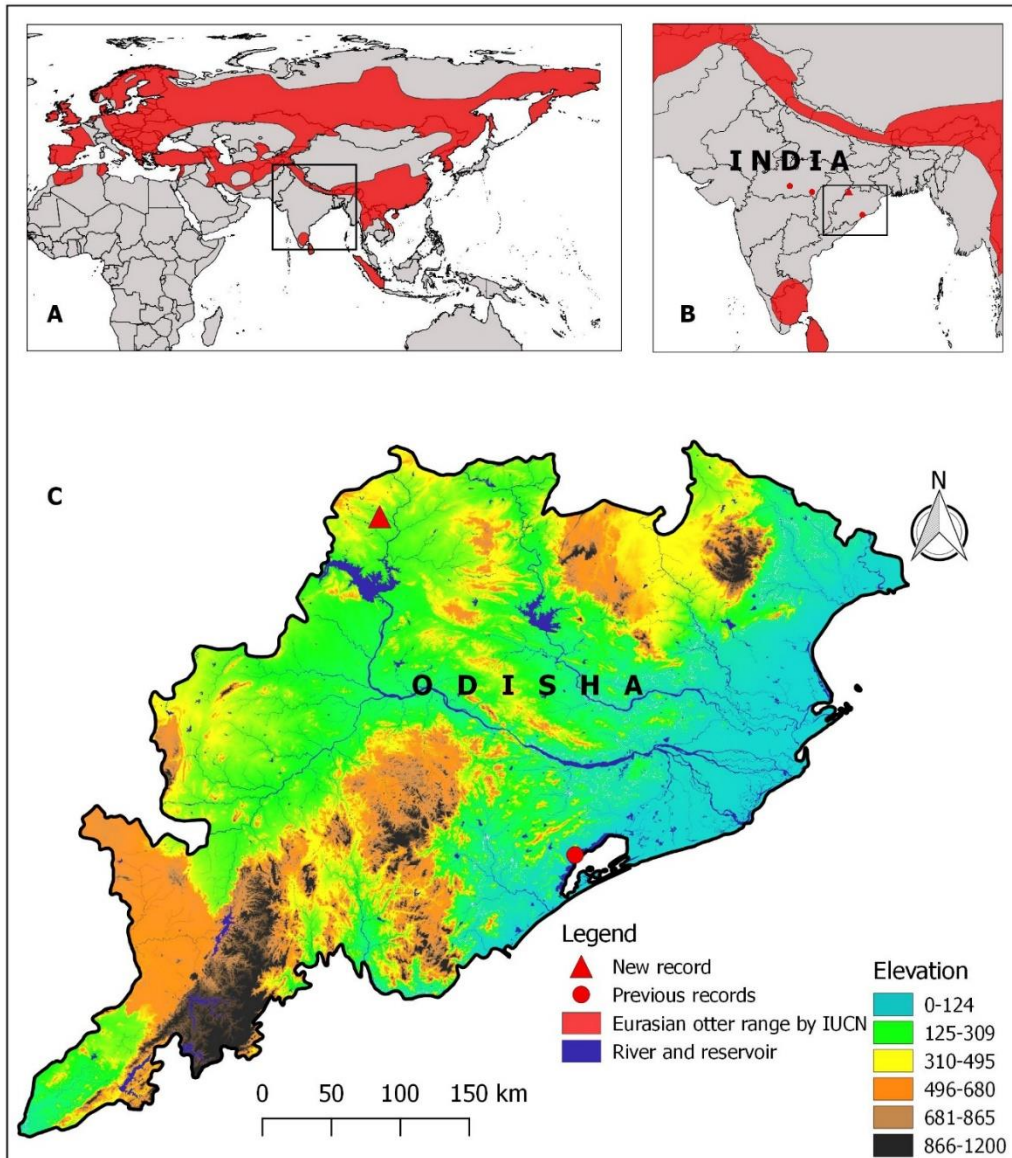
is listed on Appendix I of CITES which indicates that the species is threatened with extinction and may be affected by trade (CITES, 2017).

Out of 13 extant species of otters found worldwide, India is home to three species of otter, namely Asian small-clawed otter (*Aonyx cinerea*), Smooth-coated otter (*Lutrogale perspicillata*) and Eurasian otter (Hussain, 1999). In India, Asian small-clawed otter is found from the Himalayan foothills of Himachal Pradesh to West Bengal, Northeast India, as well as in southern Indian hill ranges of Karnataka, Tamil Nadu and Kerala (Pocock, 1941; Hussain et al., 2011) and eastern India of Odisha (Mohapatra et al., 2014a). The Smooth-coated otter is distributed throughout India from the Himalayas southwards and has been reported from the north Indian states of Himachal Pradesh, Punjab, plains of Uttar Pradesh, Madhya Pradesh, Rajasthan, Bihar, in the central Indian plateau of Madhya Pradesh, Maharashtra, Goa, Andhra Pradesh, in the east and northeast in Odisha, West Bengal, Assam through Burma, in the south in Karnataka, Kerala and Tamil Nadu (Prater, 1971; Hussain, 1999). The Eurasian otter is distributed north of the Ganges river extending throughout the Himalayas, Northeast, in the eastern region along the Odisha coast, up to Madras, and then to south India (Hussain, 1999). Recently the Eurasian otter has been recorded from central India (Jena et al., 2016; Joshi et al., 2016; Talegaonkar et al., 2021), Western Ghats (Mudappa et al., 2018), and in the coastal region of Odisha, eastern India (Adhya and Dey, 2020). Unlike the other two species of otter in India, the Eurasian otter receives little scientific attention in India because of its rarity status (Hussain, 1999). It is considered an endangered species in India, features in Schedule-I of the Indian Wildlife (Protection) Act, 1972. Overall, lack of detailed information on its conservation status has designated it as one of the poorly known species in India.

Although Odisha has numerous hill streams, an extensive network of rivers and an array of marshy and mangrove habitats along the coast (Fig. 1), oft-used habitats of the otters, information on the occurrence and distribution of all three species in the state is poorly known. Although all three species of otters have been reported from Odisha (Debata and Palei, 2020), only a few records have been published on the species historically or recently. The earliest otter (Common otter or Eurasian otter, *Lutra vulgaris*) records date back to 130 years ago from Chilika Lake (Blanford, 1888-91). Annandale (1915) reported Smooth-coated otter (*Lutra macrodus*) when mammal collection was made from Satapara, Chilika Wetland by Zoological Survey of India. Mishra et al. (1996) revealed the occurrence of Smooth-coated otters all over the state, including mangrove swamps and coastal plains. From 1964 to 1999, eleven young specimens of both sexes of smooth-coated otters were received at Nandankanan Zoological Park from coastal areas of Odisha (Acharjyo, 1999). Mohapatra et al. (2014a) reported the occurrence of Asian small-clawed otters in several locations in Odisha. Adhya and Dey (2020), for a second time, reported the occurrence of Eurasian otter in Chilika Lake, Odisha coast. In a camera trap study, Palei et al. (2020) reported Smooth-coated otter's occurrence and activity pattern in Bhitarkanika National Park, Odisha. Here we report the photographic evidence of Eurasian otter from Sundargarh forest division, Odisha, India.

The Sudargarh forest division, western Odisha shares its boundaries with Chhatisgarh and Jharkhand state of India. It covers 3776 km<sup>2</sup> and is dominated by tropical dry-deciduous, northern tropical dry-deciduous and northern dry-mixed deciduous forests (Champion and Seth, 1968). The mean minimum and maximum temperature varied from 6-20 °C in January and 35-45 °C in May. The mean annual rainfall is 1100-1500 mm during the monsoon between June and September. The terrain is undulating and hilly and the altitude ranges from 152 m to 903 m. The forest division

supports the population of several large threatened mammals, such as Asian elephant (*Elephas maximus*), tiger (*Panthera tigris*), leopard (*Panthera pardus*), sloth bear (*Melursus urisinus*) and Indian grey wolf (*Canis lupus*) (Palei et al., 2018a, 2019c).



**Figure 1.** Map showing Inset: the Eurasian otter global distribution (A), distribution in India (B) and the occurrence of Eurasian otter in Odisha, India (C).

## OBSERVATIONS

During a survey of aquatic fauna in Sundargarh forest division, Odisha, India, we observed a semi-captive otter in the village Dhelsara, near river Ichha (22.06594°, 83.892243°) (Fig. 1, 2). We were able to get further details of the captured otter after enquiring the villager who has captive the otter. The villager has rescued the otter cub from the local dogs near the Ichha Nallah in December 2020. The otter group might have been left the cub and escaped away from the local dogs. After being rescued, the otter cub was fed cow's milk every day with a nipple bottle for two months. After that, the owner started feeding rice and fish, including dry fish. The 8-month year male cub was freed from any chain and control and moved freely in the house and backyards. The owner took the otter to the river every day 2-3 times. The otter swam well in the river and started searching for own food also depends on the food offered by the

villager. The owner tried to release the otter into the wild several times, but the otter returned home every time. We identified as the otter was sub-adult male and took the following measurements: the weight was 2.8 kg, the head to the base of tail length was 58 cm, the tail length was 37 cm, the chest girth was 49 cm, and the height was 18 cm. The pelage was dark brown on the dorsal side and lighter on the underside. The otter had long, prominent claws and semi-webbed feet. The species was identified as a Eurasian otter based on the pronounced muzzle, zig-zag pattern, or “W” shaped naked rhinarium and cone-shaped tail (Fig. 2).



**Figure 2.** Photographs of the Eurasian otter in Sundargarh Forest Division, Odisha, India

During the survey, we encountered several spraints and footprints of otters in the river stretches. Informal discussion with villagers revealed that they confirmed the presence of the otter group in this area. However, from the otter sign, we were unable to confirm the presence of other species of otter such as Asian small-clawed otter which is reported in different parts of the state (Mohapatra et al. 2014a). Further detailed camera trap study is required to ascertain the presence of other species of otter in this area. The Ichha River is a high gradient stream with a sandy bottom and a channel width of approximately 50 meters (Fig. 3, 4). The banks of the river were sandy with sporadic vegetation. The river leads to Ib River, which is one of the major tributaries of the Mahanadi River. The study site is the human habitation area, and both sides of the river

were dominated by agricultural land. We observed rampant fishing, cattle grazing and sand mining by locals in this area.



**Figure 3.** Habitat of the Eurasian otter in Sundargarh Forest Division Odisha, India



**Figure 4.** Habitat of the Eurasian otter in Sundargarh Forest Division Odisha, India

## CONCLUSION

The photographic evidence of the Eurasian otter obtained through this study further confirms the presence of this species in Odisha. Our record of the Eurasian otter from Sundargarh forest division is about 300 km from the locations of the previous report from Odisha, showing an extension from its previously known geographic location of the state. Also, it extends the known geographical range of the species in the central Indian landscape. Previous studies have likely overlooked the presence of the Eurasian otter in this area because of its elusive behaviour and lack of species-level identification skills. However, recently biologists have expanded the known distribution ranges of several species in Odisha (Mohapatra et al., 2014a; Mohapatra and Palei, 2014b; Debata et al., 2015; Palei et al., 2018a; Palei and Debata, 2019a; Palei et al., 2019a,b; Palei et al., 2021). Therefore, further targeted and intensive studies of

the Eurasian otter in the possible localities are essential to better understand this rare species and formulate appropriate conservation plans for its long-term survival.

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## RESUME

### ENREGISTREMENT PHOTOGRAPHIQUE DE LA LOUTRE EURASIENNE *Lutra lutra* (LINNAEUS, 1758) DANS L'ODISHA EN INDE

La loutre eurasiennne (*Lutra lutra*) est un top prédateur rare et peu connu de l'écosystème aquatique en Inde. Une loutre eurasiennne a été photographiée le 9 juillet 2021 dans un village de la division forestière de Sundargarh dans l'État d'Odisha lors d'une enquête sur la biodiversité. Cet enregistrement est une information supplémentaire importante pour les données actuellement disponibles sur la répartition des espèces dans l'État d'Odisha ainsi qu'en Inde. Une étude plus approfondie se justifie pour évaluer la résilience génétique et démographique de la population.

## RESUMEN

### REGISTRO FOTOGRÁFICO DE LA NUTRIA EURASIÁTICA *Lutra lutra* (LINNAEUS, 1758) EN ODISHA, INDIA

La Nutria Eurasiática (*Lutra lutra*) es un predador-tope raro y poco conocido de los ecosistemas acuáticos de India. El 9 de Julio de 2021 fue fotografiada una nutria Eurasiática en un poblado en la división forestal Sundargarh, en el estado de Odisha, durante un relevamiento de biodiversidad. Este registro es una adición importante a la información actualmente limitada sobre la distribución de la especie en el estado de Odisha -así como en India. Se hacen necesarios estudios ulteriores para evaluar la resiliencia genética y demográfica de la población.

**ସାରାଂଶ: ଇଉରାସିଆନ୍ ଫେରିଙ୍ଗାଗ୍ରାଫିକ୍ ରେକର୍ଡ୍ | *Lutra lutra* (Linnaeus 1758) ଭିଡ଼ା, ଭାରତ**

ସୁନ୍ଦରଗରହ ଓଡ଼ିଶା (ଲୁଗା ଲୁଗା) ହେଉଛି ଭାରତର ଜନଜୀବ ପରିସଂସ୍ଥାର ଏକ ବିରଳ ତଥା ବହୁତ କମ୍

ଜଣାଶୁଣା ଶୀର୍ଷ ଶିକାରୀ। ଓଡ଼ିଶା ରାଜ୍ୟ ଅନ୍ତର୍ଗତ ସୁନ୍ଦରଗଡ଼ ବନଖଣ୍ଡର ଜୈବବିବିଧତା ସର୍ବେକ୍ଷଣ ସମୟରେ ଏକ ଗ୍ରାମରେ ୯ ଜୁଲାଇ ୨୦୨୧ ରେ ଏକ ଇଉରାସିଆନ୍ ଓଧର ଫଟୋ ଉତ୍ତୋଳନ କରାଯାଇଥିଲା। ସାମ୍ପ୍ରତିକ ଓଡ଼ିଶା ତଥା ଭାରତରେ ଏହି ପ୍ରଜାତିର ଅବସ୍ଥିତି ଏବଂ ବିସ୍ତାରଣ ସମ୍ପର୍କରେ ସୀମିତ ସୂଚନା ଉପଲବ୍ଧ ଥିବା ସମୟରେ ଏହି ରେକର୍ଡଟି ଏଥିଲାଗି ଏକ ଗୁରୁତ୍ୱପୂର୍ଣ୍ଣ ଯୋଗଦାନ କରୁଅଛି। ଏହି ପ୍ରଜାତିର ଆନୁବଂଶିକ (ଜେନେଟିକ୍) ଅନୁଶୀଳନ ଏବଂ ଜନସଂଖ୍ୟା ସ୍ଥିରତାକୁ ଆକଳନ କରିବା ଲାଗି ପରବର୍ତ୍ତୀ ଅଧ୍ୟୟନ ଜରୁରୀ ଅଟେ।