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Commentaries on, ‘the occurrence of Indo-Pacific Humpback Dolphin in estuarine area of Narmada River, Gujarat’

Recently, Joshi et al. (2024) published a note on the occurrence of Indo-Pacific Humpback Dolphins *Sousa chinensis* (Osbeck, 1765) (now IPHD) in the estuarine area of Narmada River, Gujarat. This is a motivating new locality record of the species from the Gulf of Gujarat. The authors claim that, ‘*the photographic record by the GEER Foundation research team is the first authentic record of the occurrence of the Indo-Pacific Humpback Dolphin in the Narmada River estuary in the Bharuch District near the Gulf of Khambhat*’. The claim of the record is the resulting outcome of a poor literature survey, and further, I have provided a few chronological update records of the species from coastal Gujarat, India (Table 1).

The IPHD is categorized as ‘Vulnerable’ as per the IUCN Red List of Threatened Species (Jefferson et al. 2017). It is a Schedule-I marine mammal as per the Indian Wildlife (Protection)



Indo-Pacific Humpback Dolphin *Sousa chinensis* stranding near Umaraya Village. © Kartik Upadhyay.

Amendment Act, 2022. It is included in Appendix I of the Conservation of International Trade of Endangered Species of Flora and Fauna (CITES) and listed in Appendices II of the Convention on Migratory Species (CMS). This species inhabits the coastal waters of the eastern and western Indian Ocean and the northwestern, southwestern, and western central Pacific oceans (Reeves et al. 2008). These dolphins have been reported to occupy a variety of habitats in the coastal areas which

includes estuaries (Parsons 1998; Muralidharan 2013), mangrove islands (Cagnazzi et al. 2011), enclosed bays (Karczmarski et al. 1999; Chen et al. 2009), shallow rocky reefs (Karczmarski et al. 2000), whereas sometimes they enter rivers (Singh 2003). While information on various aspects of the dolphin is available, very little information is available on the accidental stranding, rescue, and return of humpback dolphins along the Indian coast (Kasim et al. 1994).

Table 1. Details of records of Indo-Pacific Humpback Dolphins *Sousa chinensis* from coastal waters of Gujarat, India.

	Date	Location	Source
1	16xii1976	Devka, Bhimpore, Union Territory, South Gujarat	Joglekar et al. 1977
2	iv1977	Udwada, Pardi, Valsad District, South Gujarat	Joglekar et al. 1977
3	i2002	Beyt Dwarka, Chusna, Kalubhar, Pirotan, Gulf of Kutch	Sutaria & Jefferson 2004
4	16x2014	Mithapur, Gulf of Kutch, Gujarat	Adhavan et al. 2016
5	3xii2014	Jakhau, Kutch	Kukadia et al. 2016
6	28xii2015	Mahi River, Gambhira bridge, Padra Taluka, Vadodara, Gujarat.	Solanki et al. 2018
7	29x2018	Mahi River, Umaraya, Gambhira, Padra Taluka, Vadodara, Gujarat.	Unpublished, Vyas Raju
8	6v2019	Sakkarpur Borbhatha, Ankleshwar Taluka, Bharuch District	Times of India 2019
9	2xii2022	Narmada River, Mahegam, Bharuch	Joshi et al. 2024

The species has been reported along the Indian coast and along the Gujarat coast. Its presence has been reported from the Gulf of Kachchh, Saurashtra coast and Surat coast (Sutaria et al. 2015). IPHD is known to prefer shallow, inshore waters ranging from a minimum of 0–10 m to a maximum of 21–30 m depth (Ross et al. 1994; Sutaria & Jefferson 2004). In Gujarat, strandings of IPHD have been documented due to net entanglement at the Veraval coast (Kizhakudan et al. 1998) and shark attacks at the Mithapur coast (Adhavan et al. 2016) whereas the causes of stranding at Devka and

Udwada coast (Joglekar et al. 1977) and its occurrences in Marine National Park, Gulf of Kutch (Sutaria & Jefferson 2004), and Solanki et al. (2018) provided details of the recorded an accidental standing, rescue and release of IPHD from a natural pool of Mahi River, Gulf of Khambhat, Vadodara, Gujarat, India.

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Leopard rescue in urban area - a case study on planning and execution

Leopards are one of the most wide spread carnivores in India and have adapted themselves to almost all kinds of habitats. They are considered most elusive and more resilient. They have been known to live near human habitation with minimum level of conflict. Leopards, unlike tigers, are also found outside forests (Jhala et al. 2015). Massive cultivation activities attract prey like Wild Boars, hare, Bluebull, and Hog Deer, which subsequently make a suitable prey base for carnivores, especially leopards. There are studies where they are reported to dwell near human habitation without any negative interactions for years (Athreya & Belsare 2007). Leopard population in India was estimated to be 7910 in 2014 (Jhala et al. 2015) as compared to 12,852 in the forested areas of tiger states in 2018 (Jhala et al. 2020).

The leopard's menu is very extensive and preferred size of prey ranges up to 40 kg in most of cases. And most of the feral animals fall in this category of weight and attract leopards that occupy forest boundaries.

Leopards are not as feared by people who live along the fringes of the forests because they see them often, but if a city person sees a leopard, then an immediate fear is spread and despite being in no-conflict the animal is said to be in-conflict. When an animal senses a threat

then only he attacks and that's what happens in most of cases when animal is seen near cities. During such an operation, a leopard was sighted in a densely populated urban area of Meerut City.

A. First response

Information by Police Response Vehicle-112 Pallavpuram, Meerut and local corporator at around 0800 h was received at divisional director's office, Meerut.

Divisional director, Meerut gave information to the assistant conservator of forest, Meerut, forest range officers of Meerut and Rithani, and the wildlife guards and instructed them to reach the spot as soon as possible.

The information was reported to senior officers after confirmation that it's a leopard.

Photos and videos of first sighting location with GPS were collected to assess and plan accordingly. After confirming location, the leopard was found in the house portico hiding behind the air cooler (Tail portion of the leopard was clearly visible).

Accordingly, staff installed one big trapping net around house entrance up to the height of roof to restrict his movement. The staff constantly monitored its location and activities from a safe distance.



Space from where leopard trapped in between the boundary wall and net escaped.
© Social Forestry Division, Meerut.

A wildlife expert was involved in the rescue operation. He was briefed about the situation on field. After assessing the situation, the divisional director called one more team for immobilisation from the National Zoological Park, New Delhi.

But due to disturbing mob sound, the leopard reacted and jumped outside the house and got trapped in between the boundary wall and the net and somehow managed to escape through a point where net was not fastened properly to the ground as the rescue team didn't get sufficient time to do so.

Learning: Trapping net installation: Trapping net should be fastened properly to the ground with the help of proper hooks (for proper strength) or trapping net should be installed in such a way that ample amount of net remains at ground level so that animal gets trapped in that loose net while escaping.

Mob and ground media personnel

management: Barricade the area and adjoining roads as soon as possible to prevent any untoward incidence if animal somehow escapes.

Problem faced: Locating the leopard quickly. No pugmarks signs due to permanent road. Therefore, enquired all households of last sighted location after leopard's run.

B. How animal was located in these tough circumstances

Enquiries with all nearby households who were outside their houses narrowed down the probable area and accordingly deployed staff and police personnel in all directions in order to restrict mob movement towards probable location. The close circuit TV (CCTV) footage around the probable area was viewed for confirmation. Last sighted location narrowed down using all gathered information and search and combing operation with experts was

launched in probable two open plots. In first plot, two small room structures were present with outer boundary wall. On the other side, another plot was not having any boundary wall on two sides and was full of dense bushy vegetation (mini natural jungle type area).

Rescue team was of the opinion that animal must be hiding in one of these two open plots. Firstly, team checked those two small room structures with precautions and after the search, the rooms were closed to zero down the possibility of entry of leopard into those rooms.

It was not possible to sight the leopard due to bushy vegetation in other plot area. One staff taking wall as shield dared to narrow down probable location in that plot. Luckily, he saw few rosettes of the leopard skin along the wall hiding beneath a dense bush. After confirming the exact location, the team started planning how to restrict the movement of leopard in that plot itself.

C. Fool proof planning & strategy

Extra forces were deployed with the help of superintendent of police to restrict any movement of mob from all sides.

Clear directions were announced on field with the help of public address system of divisional director's vehicle.

Full proof cordoning off the core location was ensured with trapping net to ensure that the leopard couldn't escape from that plot.

D. Problem faced & resource mobilization

To cover plot (approx. 3,200 sq.ft. area) the

team needed at least 20–25 big nets.

Therefore, nearby forest divisions were contacted simultaneously for extra resources.

The rescue team contacted local known resources such as Regional Rapid Transit System (RRTS) project-National Capital Region Transport Corporation (NCRTC) system especially for construction nets to be used for outer layering of nets. Needed 14 feet poles for supporting 12 feet nets. Took help of local corporator of municipal corporation in arrangement of poles from local tent house.

Hooks to fasten the net with grounds were sourced from local tent house so that the leopard can't escape from any side. Temporary additional strengthening was done with the help of big boulders and small iron rods.

Extranet roofing was done at both open corner area to ensure that leopard will not be able to escape through jumping from corner ends of plot.

E. Innovations in planning

While starting net installation it was decided to use any machinery with horizontal boom to execute immobilisation in bushy mini jungle type area to easily locate the leopard and to ensure safety of immobilising team. The divisional director coordinated with district administration and RRTS for these machines. Within 90 minutes two big crane machines/backhoe loaders with horizontal boom were arranged through Meerut Development Authority and RRTS.



Immobilizing team on horizontal boom of a backhoe loader and plot covered with double layer of nets. © Social Forestry Division, Meerut.

Learning

The horizontal boom was protective for immobilising teams. Since the animal was reluctant to move from his location despite every effort of the rescue team, a long bamboo stick was used to gently prod the leopard by lowering the horizontal boom carrying immobilising team.

F. Immobilisation of the animal

Drugs used: Injection xylazine @ 1 mg per kg body weight and injection ketamine @ 3 mg per kg body weight was used assuming total body weight of the leopard around 70 kg.

While rescue operation the animal immediately tried to escape through one end where rescue team was ready with dart gun and the animal was darted.

The leopard went back to same place after being darted to hide himself beneath bushes. After sometime the animal moved towards

another end where another rescue team observed that the dart was in proper position on rump region of leopard but had not injected medicine properly in the body. Realizing the situation another team immediately darted the leopard successfully. Again, the animal went back to the same hiding place. It was not possible to assess the level of sedation of the leopard. Therefore, a bamboo was used from another plot with safe distance to gently prod the animal in order to check the sedation.

The animal was taken out of the plot after cutting the bushy vegetation carefully and safely.

Learning

The immobilizing team should assess the proper drug delivery after darting as merely relying on injected dart in the muscles never guarantees immobilisation, as in our case dart by first team couldn't inject drug possibly due to improper pressure in dart air chamber.

Two team approaches proved helpful and animal was successfully immobilized.

G. Mob management

The main reason for mob becoming unruly after immobilising the leopard was the diverted attention of the few policemen towards leopard as they also wanted to have a glimpse of the darted leopard. However, situation was controlled immediately by using public address system by divisional director.

Learning

The divisional director used public address system twice to prevent mob from coming near the leopard cage.

Mob noise at the time of putting darted animal in the transportation cage should be strictly avoided as too much noise act as catalyst in awakening the darted animal.

Police force should also be kept at reasonable distance as their presence itself acts as barrier for mob.

H. Transportation and release of leopard

The leopard was transported according to protocol as described by Singh et al. (2018). The leopard was sent to forest range office where the animal was examined thoroughly by the veterinarian and was also given drinking water.

The animal was rested for around six hours for stabilization. The animal cage was properly covered by green net in order to provide calm

environment. A team headed by the divisional director with a veterinarian and other staff left Meerut for Shivalik forest division, Uttar Pradesh to release in natural habitat.

The leopard was checked twice while transportation by the team to assess health and safety of the animal.

The releasing site was a small valley surrounded by hillocks with natural water stream. The animal immediately came out of the cage after opening the door but interestingly male leopard came out reversely with posterior portion coming out first, which was very unusual. However, the animal was hale and hearty and ran away in forested area afterwards.

Learning

Leopard transportation immediately after stabilization proved very useful as the animal couldn't get much stressed and this also prevented him for self-mutilating injuries and human imprints.

Discussion

Leopards use bio-corridors to travel to other forests especially they follow rivers or other water channels but due to fragmentation of natural corridor in the form of man-made objects, they somehow reach human habitation. However, it's worth mentioning that they are human shy animals and generally avoid any type of conflict with us. But if easily accessible food is available then certainly some sort of conflict may arise in that particular area. Leopards especially males travel long distances

in search of food and mate especially in winters.

As leopards have very long choice of prey from a small mammal like mouse, monkeys, porcupine to dogs and sometimes large deer and birds etc. therefore presence of feral animals like dogs, blue bull fawns, hares, wild boars and in few cases, livestock attract them especially in farmlands as crops always occupy some farmlands and provide shelter to leopard's prey. At the time of harvesting, they come out but still without causing any harm.

But if such an animal is chased, it runs away in haste and sometimes may reach the cities. But one thing needs to be clear that only very few croplands are prone to leopard infestation, not all. According to Hayward et al. (2006), leopards preferentially prey upon species within a weight range of 10–40 kg. Regression plots suggest that the most preferred mass of leopard prey is 25kg.

Stabilizing animal for around six hours at a calm and quiet place proved beneficial before transportation as the leopard most of the time remained calm during journey which prevented self-mutilating injuries. This observation equates with Singh et al. (2018) which states that the animal usually struggles when taken inside the transport cage, hence the cage should be immediately covered by a green net and no one should be allowed to come close. Generally, after some time animal calms down. While loading the animal cage the face of the animal should always be in moving direction of the carrying lorry. It should be kept in mind

that the cage should not tilt while loading. Therefore, it is always advisable to upload the cage through a proper ramp.

Sontakke et al. (2017) described injection xylazine @ 1.1 mg and injection ketamine @ 2.2 mg per kg body weight which little bit corresponds with our dose regime, i.e., 1 mg per kg body weight and 3 mg per kg body weight, respectively.

According to Srivastava et al. (2014) before releasing any animal the rescue team should study the release-factors, such as its distance from rescue area, favourable conditions to survive and ecological balance. In this case also the release site was Shivalik wildlife division which is at considerable distance and possesses all conditions that are favourable for leopard's release in natural habitats, viz., perfect habitat in the form of dense hilly jungle with many natural water streams away from any form of human activities.

People awareness regarding proper disposal of garbage is one of the sectors which needs to be focussed on as garbage always attracts feral animals. And the place where easily accessible food is available with no or very less competition will further attract large predators.

Conclusion

Rescuing a leopard in a dense city area is always a very difficult task for the rescue team. There are instances where in such cases either the animal ran away or while running away in self-defence it injured some people due to

excitement or at some places he was beaten to death. But in our case, quick response from rescuers didn't allow leopard to leave the area and with the help of modern technology the animal was quickly located. The team was successful in keeping leopard calm as noise making mob was kept at safe distance initially. Timely liaisoning with other agencies and mobilization of available resources resulted in successful confinement of the leopard and subsequent immobilization and rescue.

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Sighting of a rare species of butterfly, Indian Common Duffer from West Bengal State University Campus

The present study deals with sighting reports and first photographic record of Indian Common Duffer *Discophora sondaica zal* Westwood, [1851] (Lepidoptera: Nymphalidae) from 24 Parganas (North) District, West Bengal.

The study area is located at West Bengal State University (WBSU) Campus (22.73 N & 88.43 E) and belongs to the suburban belt of North 24 Parganas, Barasat, West Bengal, India. The vegetation complex of the area includes a considerable number of trees, shrubs, climbers, and grasses. The rich plant diversity of this area provides suitable niche for butterflies.

Observation

Discophora sondaica zal was observed during a butterfly survey inside the university



Indian Common Duffer *Discophora sondaica zal* Westwood, [1851] (Lepidoptera: Nymphalidae). © Md Abu Imran Mallick.

campus, (22.73 N & 88.43 E). The survey was conducted in September 2023.

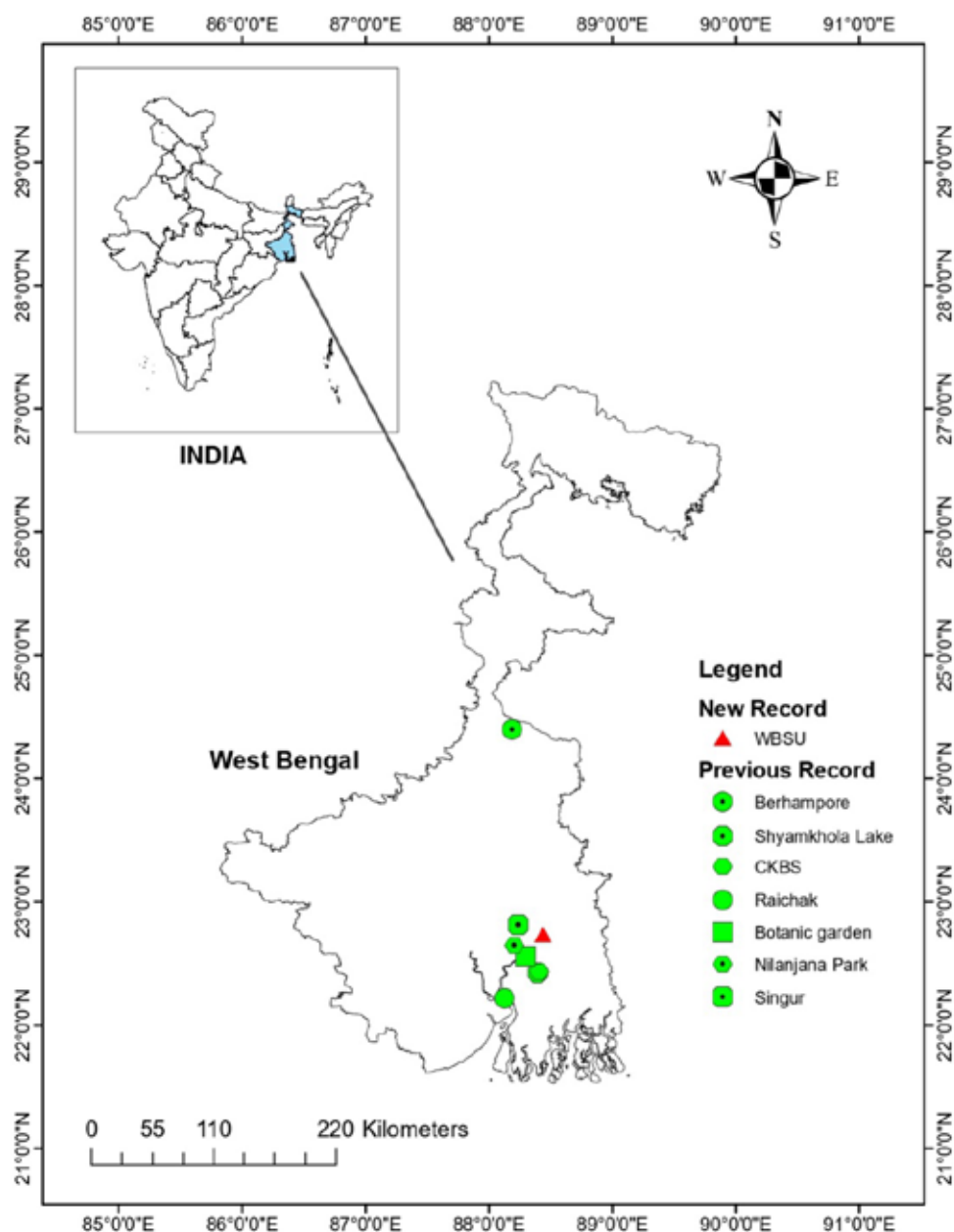
The upper wings of *Discophora sondaica zal* are dark brown and males have a series of pale blue spots on the lower half of the forewings. Females have dark brown wings and a series of white spots on the post-discal and sub-marginal

forewings. The underside of the wing is streaked with brown, striated, the distal half of the wing is lighter in color and the post-discal portion of the hind wing has some ocellus (Anon 2023). The butterfly is about 65–80 mm in size (Anon 2023).

Discophora sondaica zal is known to occur very rare in

Bugs R All

Newsletter of the
Invertebrate Conservation & Information Network of South Asia (ICINSA)



Records of previous and recent distribution of *Discophora sondaica zal* from West Bengal

the areas of their distribution (Anon 2023). It is a rare species of butterfly, native to the southern and southeastern Asia and it inhabits shrub and forest. In West Bengal, it has been reported from Sundarban

(Das et al. 2019), Midnapore (Mahata et al. 2020), Berhampore, Shyamkhola Lake, CKBS, Raichak, Botanical Garden, Nilanjana Park, and Singur, West Bengal, India (Anon 2023). In India, it has

been reported from Assam, Odisha, Nagaland, and Mizoram (Anon 2023). Outside India, several accounts of the species are recorded from Singapore, Malaysia, Guangxi, Guandong, Fujian, Malay

Bugs R All

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Peninsula, Sumatra, Borneo, and Minandano have confirmed the report of this species (Kehimkar 2016).

The sight of this rare species has great ecological significance especially when biodiversity is declining. Human-mediated effects of environmental change; habitat loss and fragmentation are major contributors to population decline or even species extinction. Thus, an ecology-based inventory of butterflies should be given a high priority in un-surveyed areas with rich biodiversity. This species is legally protected in India under Schedule I of the Wildlife (protection) Act, 1972.

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zooReach
Zoo Outreach Organisation

New floral addition: *Asystasia gangetica* (Acanthaceae) in Arunachal Pradesh, India

Asystasia gangetica is a perennial herb with quadrangular stems and simple blades. It can grow 1–3 m in height and has bisexual, zygomorphic flowers on axillary branches. The outermost part is green, while the sepals are lanceolate. The inner part is asymmetrically funnel-shaped, light yellow or pale violet, and has glandular hairs. The stamens and pistil are inserted on the floral tube. After pollination, it produces capsules, which turn light brown and contain 2–4 light brown seeds (Acevedo-Rodríguez 2005).

Asystasia gangetica, also known as Chinese Violet or Ganges Primrose, is a beautiful, quickly growing, perennial herbaceous plant that is native to tropical Asia, Arabia, and Africa (Suzuki et al. 2019). The species was introduced to tropical areas of the North, Central, and South America, Hawaii, the West Indies, and Australia, where it has



Asystasia gangetica. ©Huidrom Bablin Singh.

become naturalized (Josekutty et al. 2002; Hsu et al. 2005; Burg et al. 2012). C.L. Blume (1826) first described the genus *Asystasia*, which stands

for consistency referring to abnormalities of the corolla in the family Acanthaceae, in 1826. The Ganges River in India, where it is thought to

occur, is where the name '*gangetica*' originated. The most widespread species in the genus, *A. gangetica*, has a range of flower hues, including white, yellow, and purple with blotched patterns.

Because of its remarkable ability to thrive in climatic conditions, especially in warmer regions, this species has been listed as an invasive plant in countries like Cuba, Puerto Rico, and Hawaii (Acevedo-Rodríguez 2005). This species spreads quickly in any habitat, including disturbed areas, semi-waterlogged areas, and cultivated areas. By developing a dense ground cover, it also promotes competition with the natural species (Varnham 2006). This note provides an overview of *Asystasia gangetica*'s distribution in PTR, Pakke Kessang, Arunachal Pradesh, India.

On 10 February 2022, about 0124 h, the lead author made an unusual finding while undertaking a floristic survey of Pakke Tiger Reserve (PTR) in Pakke Kessang, Arunachal Pradesh. The author came upon a group of 3–5 individuals of *Asystasia gangetica* around the reserve's boundary, and saw that the species were increasing in the drainage region close by the roadway, near the paddy cultivation of human settlements. On this location, various spreading plants together occupied approx. 5–10% of the ground cover across an area of 2 m² in sandy loam soil at the border of a tiny drainage channel. The vegetation there consisted of *Mikania micrantha*, *Ageratum conyzoides*, *Chromolaena odorata*, *Datura*

metel, *Amaranthus viridis*, and *Scoparis dulcis*, with *Oxalis corniculata* common in the understory. The elevation of this precise site was 125 m, and its coordinates were 26.9409 N, 92.9954 E.

Even though the author noted that this species is more prevalent along roadsides and in drains than in forested areas. It appears that the building of new roads may be a crucial factor in the potential expansion of this species. The phenology of this plant occurs from February to April in PTR, although other geographical places may witness distinct phenological occurrences (Dhruvan et al. 2019; Debnath et al. 2016).

This might be due to geographical variance and climate change. Climate change may have contributed to the species distribution, despite the fact that it is considered an invasive species in many countries. *Asystasia gangetica* is not regarded as an invasive species in India, nonetheless. The majority of the documentation for these species comes from southern India; the northeastern part of India has seen very few studies.

Since GBIF, iNaturalist, or any scientific studies have not yet verified their presence in the eastern Himalayan state. This study unambiguously confirms the distribution of *Asystasia gangetica* in the eastern Himalayan state of Arunachal Pradesh, adding to the region's flora. Additionally, a colour image of the species is shown to make identification simple.

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New addition of two 'Least Concern' bird species to the avifauna of Todgarh-Raoli Wildlife Sanctuary, Rajasthan

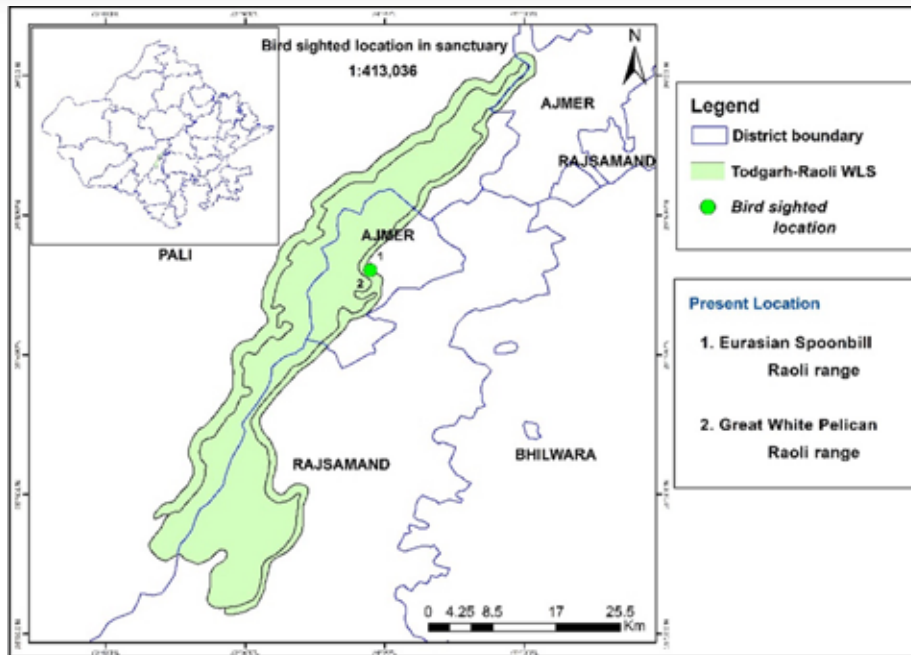
Out of 871 species of water birds found worldwide (Ali & Ripley 1986), India contributes about 310 wetland bird species (Kumar et al. 2005) and Rajasthan represents about 100 wetland bird species, out of this order Pelecaniformes represent 34 species from Rajasthan and 10 species were reported from this sanctuary (Kumar & Gupta 2013; Koli 2014).

Todgarh-Raoli Wildlife Sanctuary is situated between 73.67 – 74.17 E and 25.33 – 26.00 N, covers an area of about 495.27 km², and is extended in three districts viz. Rajsamand, Pali and Ajmer in the southwestern part of Rajasthan State.

During the survey of the sanctuary from 2015 to 2019, we sighted two wetland bird species of the order Pelecaniformes. All the bird species have been identified by using various published literature (Ali & Ripley 1986;



Eurasian Spoonbill & Great White Pelican in Todgarh-Raoli WS.
© C.S. Purohit.



Distribution of Eurasian Spoonbill & Great White Pelican in Todgarh-Raoli WS.

Beaman & Madge 1998; Grimmett et al. 1999; Singh et al. 2022). After the critical study, both species are in addition to the avian diversity of this sanctuary.

(1) Great White Pelican *Pelecanus onocrotalus* Linnaeus, 1758.

Distribution: Palearctic region (Europe to Mongolia), Asia, Iran, Iraq and India (Tamil Nadu, Punjab, Assam, Gujarat, Kerala, Karnataka, Andhra Pradesh and Rajasthan. Rajasthan- Jaipur, Bharatpur, Jodhpur, Kota and Ajmer (Ajmer city) (Catsadorakis et al. 2015; Thirunaranan et al. 2017)).

Status: Least Concern (BirdLife International 2018).

Note: Pelecanidae is the first-time reported family from this sanctuary. It mostly occurs in small groups or rarely in single. It often swims

forward in a semicircular formation, driving fish into shallow water, each bird then scoops up fish from the water into its pouch, before swallowing the food. Roosts in flocks usually on open sand bars, large lagoons and tidal creeks.

Sighted at: Raoli Range, Tilakheda, 28 February 2019, 25.7679 N, 73.9826 E, 434.1m.

(2) Eurasian Spoonbill *Platalea leucorodia* Linnaeus, 1758.

Distribution: Western Europe, northwestern Africa, China, Pakistan, Myanmar, Sri Lanka and India (Maharashtra, Madhya Pradesh, Karnataka, Rajasthan, Gujarat, Tamilnadu. Rajasthan: Bharatpur, Ajmer (Ajmer city), Kota, Barmer (Champagnon et al. 2018)).

Status: Least Concern (BirdLife International 2019).

Note: The genera *Platalea* is reported for the first time from this sanctuary and this is the generic addition for the avifaunal diversity of this sanctuary. Wades in shallow water, making side-to-side sweeps of the bill and sifting prey. It is commonly found in longer lakes, lagoons, rivers and marshes, also tidal creeks and mangroves.

Sighted at: Raoli Range, Tilakheda, 6 September 2018, 25.7678 N, 73.9826 E, 485.6m.

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Lesser Whistling-Duck: a rare winter visitor in upper Nilgiris, India

Lesser Whistling-Duck
Dendrocygna javanica is a medium-sized duck belonging to the family Anatidae. It is a widespread resident in the Indian subcontinent and is mostly found in fresh water marshes, shallow ponds, and lakes with emergent vegetations (Grimmett et al. 2011).

The species ranges across India, Nepal, Sri Lanka, Malaysia, Singapore, Indonesia, Myanmar, Thailand, and Vietnam (BirdLife International 2016). It occurs on islands in the region including the Andamans, Nicobars, and Maldives (Anderson & Baldock 2001). It is assessed as 'Least Concern' by IUCN Red List Assessment (BirdLife International 2016). This note portrays the first known occurrence of Lesser Whistling-Duck *Dendrocygna javanica* in Upper Nilgiris, Tamil Nadu, India.

On 19 November 2022 at 1030h. we observed a pair of Lesser Whistling-Duck



A pair of Lesser Whistling-Duck in Ooty lake, Udhagamandalam, The Nilgiris, Tamil Nadu, India. © N. Moinudheen.

Dendrocygna javanica perching on the floaters along with cormorants and Northern Shoveler in Ooty lake area, Udhamandalam, The Nilgiris (11.4033 N, 76.6927 E; 2,206 m), Tamil Nadu India.

The pale brown overall colouration with greyish-buff colour on the head and neck region, darker brown crown and nape, presence of chestnut-fringed feathers on the back, warmer chestnut colour underparts, chestnut upper tail coverts and dark grey bill and legs (Grimmett et al. 2011). We confirmed the pair was Lesser Whistling-Duck and it is a very common winter visitor in southern Indian region.

In Nilgiris, Panchavarnam (2009) recorded two individuals of Lesser Whistling-Duck on 23 December 2009 in Mudumalai Tiger Reserve. Mohan (2015) observed three individuals of Lesser Whistling-Duck on 22 August 2015 in Mudumalai Tiger Reserve. Kumar (2019) found two individuals of Lesser Whistling-Duck on 20 October 2019 in Gudalur, Mudumalai Tiger Reserve and Arpitha (2020) reported 23 individuals of Lesser Whistling-Duck on 20 October 2019 in Ombetta Lake, Mudumalai Tiger Reserve.

All the four records were observed in lower altitude areas around 900–1,150 m in the Nilgiris. The present observation is the first known record of Lesser Whistling-Duck in higher elevation areas of Upper Nilgiris region (Zarri et al. 2005). Hence, this present observation shed light on migratory water birds in Nilgiris for further observations.

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Observations of Lemon-rumped Warbler fledglings overwintering in the outskirts of Pin Valley National Park

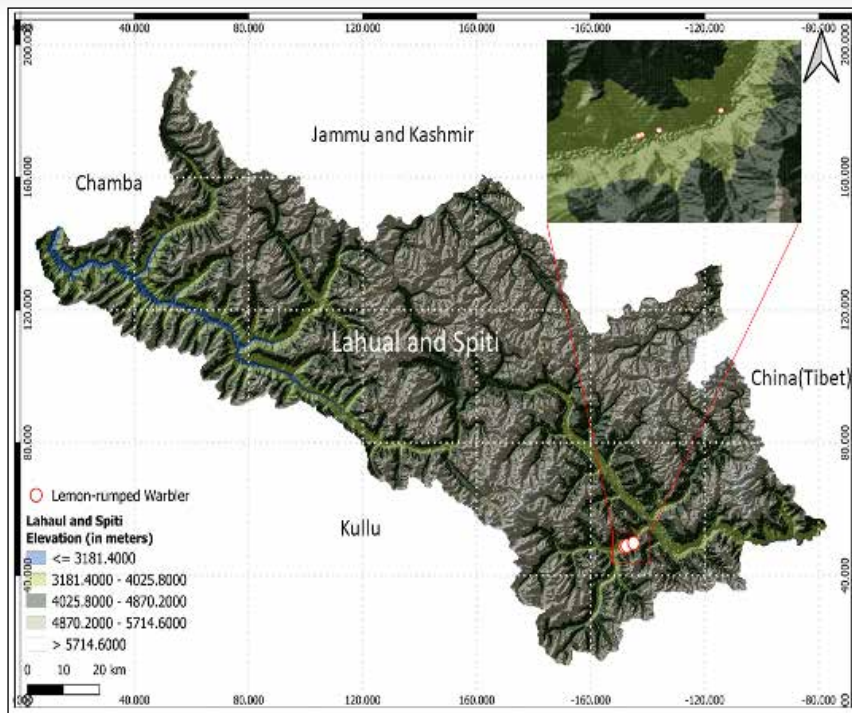
Lemon-rumped Warbler *Phylloscopus chloronotus*, also known as Pale-rumped Warbler is a species of Old World warbler belonging to *Phylloscopidae* family. This species is widespread from western Himalaya to central China and is known to breed within the range of 2,200–4,200 m, wintering in hillside woods around 2,100 m. They are found mostly between mid- to high-elevation coniferous and mixed woods, however it may migrate to foothills during the winter (Rasmussen & Anderton 2005). Breeding season of Lemon-rumped Warblers is mainly reported during the April–July (Alström & Christie 2020), which shifts to late May–June in Kashmir. Globally, eggs are laid late May to June and fledglings are reported in late July. Fledgling is defined as a stage in a bird's life cycle that develops the initial set of feathers that makes it able to fly on its own. A bird in this stage often has a distinct appearance from an



Lemon-rumped Warbler observed on 13 November 2022 in buffer area of Pin Valley National Park.



Habitat of Pin Valley National Park buffer area close to Tangti Village (3,556 m).



An elevation map of Lahaul and Spiti district, indicating the sighting locations of Lemon-rumped Warbler *Phylloscopus chloronotus*.

adult as the feathers in this stage remains probably loose and fragile since it has not yet developed its complete adult plumage.

Two Lemon-rumped Warbler adults and two fledglings were observed foraging on the Violet Willow *Salix daphnoides* near Village Tangti situated at Pin Valley National Park buffer area (32.2661 N & 78.3511, 3,556 m) at 1500 h on 13 November 2022. Birds sighted had pale olive-yellow upper parts, pale underparts, prominent brow and crown stripes, pale rump and double wing bar which distinguishes it from related locally found species like Sulphur-bellied Warbler and Tickell's Leaf Warbler that lack wing bars (Grimmett et al. 2020). There are few recent e-bird records (32.7221 N & 76.6611 E, 2023); (32.7262 N & 76.6664 E, 2021); (32.7240 N & 76.6672 E, 2021) of Lemon-rumped Warbler from Lahaul region after the year 2015 in the month of December, January and February; but none of the observations from ebird (e-Bird 2022) or any other literature sources indicates the observations during winter months in Spiti Valley.

Overwintering is the process by which some organisms survive the winter season or that time of the year when winter circumstances (low or sub-zero temperatures, ice, snow, and scarce food supplies) make it difficult or nearly impossible for them to execute out normal activities or even to survive. In some situations, winter is not always cold but rather by dry weather conditions; living through such times is also referred to as overwintering.

For birds that inhabit alpine environments overwintering is a crucial aspect of biology and has fuelled the evolution of extreme traits like migration (Williams et al. 2015). When examining climate-driven range changes, season-specific habitat characteristics should be taken into account, especially when studying overwintering populations.

Also, e-bird observations suggest that the majority of bird communities from Pin Valley having migratory traits already shift to their wintering grounds indicating that observed warbler individuals were overwintering. Keeping the season, temperature and local environmental factors in

mind this observation adds up to the significant sighting lists from Himachal Pradesh.

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Report of complete leucism in Fulvous Whistling-Duck from Assam, India

The Fulvous Whistling-Duck *Dendrocygna bicolor* (Family: Anatidae) is one of the most widely distributed species of waterfowl in the world, occurring mostly in tropical and subtropical regions along with temperate areas of the Americas, Africa, and Asia. In India it has a moderate distribution occurring from southern and southeastern towards northeastern India (SolB 2020). It is a medium sized duck, about 48–53 cm in body length. It has a long, grey bill, long legs and a head, buff under parts with reddish undertones on the flanks, a dark crown, and dark grey back and wings. The basic distinguishing features being: tawny-coloured, dark cinnamon crown, dark rear neck-stripe, and prominent white flanks (Grimmett et al. 2011; Rasmussen & Anderton 2012). It is a gregarious duck found in shallow water bodies with abundant vegetation. It is listed as Least Concern in the IUCN Red List (BirdLife International 2016).



Leucistic Fulvous Whistling-Duck *Dendrocygna bicolor* in Deepor Beel Wildlife Sanctuary, Assam, India.. © Jayaditya Purkayastha.



Map of Deepor Beel Wildlife Sanctuary, Assam, India.

On 23 January 2023, while observing birds at the Deepor Beel Wildlife Sanctuary (26.1243 N & 91.6336 E), Assam, a white duck caught our sight among the flock of Fulvous Whistling-Ducks. On

observing closely, the bird looked similar to Fulvous Whistling-Duck in size. However, the whole body of the duck was off white in colour, with pink bill having black patches, and dark eyes.

On flight, the legs and feet were observed to be pink colored. These characters observed clearly suggested that the bird is a leucistic Fulvous Whistling-Duck. Our observation was also supported by the photographs of the bird.

Leucism is a condition where an individual lacks its melanin pigments, giving it a partial or complete white appearance. In India, leucism have been reported in several species. Previously, albinism has been reported in Lesser Whistling-Duck (Chatterjee 1995) and partial leucism has been reported from India (Gayen et al 2021). However, there are no reports of complete leucism of whistling-ducks in India, and thus we herein provide the first report of its leucistic morph from Assam. More studies could help unravel different information regarding the behavior of the flock towards an abnormal colored individual.

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Lek-based polygyny in Black-headed Ibis at Bhilwara, Rajasthan, India

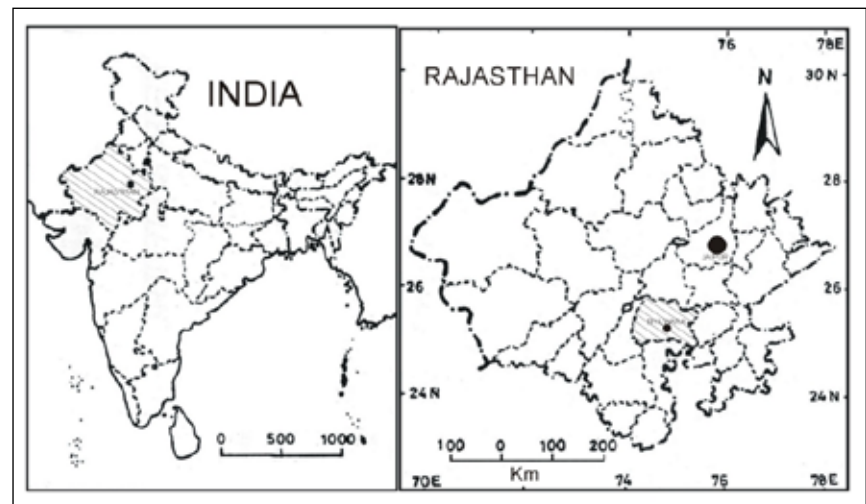
Black-headed Ibis (BHI) is also known as Oriental White Ibis *Threskiornis melanocephalus* (Latham, 1790) belongs to the family *Threskiornithidae*. The species is included in 'Near Threatened' category on the IUCN Red List (BirdLife International 2016).

It is a large, white-water bird with a prominent bare black head and neck, and a long, down-curved black bill. The body of this species is elongated but robust. The tail of the BHI bears grey ornamental feathers. Both male and female BHI are similar in size and appearance. During the breeding season, bare patches under the wings turn a blood-red colour (Ali & Ripley 1987; Hancock et al. 1992; Matheu & del Hoyo 1992).

Diurnal birds are believed to be predominantly monogamous, but alternative mating systems, like polygyny, polyandry, and co-operative breeding have also been recorded (Newton 1979). Polygyny is defined as



Nehru Talai of city Bhilwara. © Anil Kumar Sharma



Bhilwara district of Rajasthan.

several females mating with several males. Lek-based mating is a form of polygyny where the male has no attachment to the females with mates, and similarly mating females lack attachment too (Clutton-Brock 1989).

A total of 35 instances of polygyny observed in the Blue Tit *Cyanistes caeruleus*

(Schlicht & Kempenaers 2021). Similar behaviour was also observed in BHI during the present study.

In this paper, we present four observations (by first author) of lek-based polygyny in this species which was recorded by placing a camera on a tripod at different times of the day in the study area.

Case 1. (21vi2019)



Nests of Female 1 (F1) and Female 2 (F2).



Male 2 (M2) walks toward Female 1 (F1) nest.



Male 2 (M2) mates with the Female 1 (F1).



Male 1 (M1) with Female 1 (F1) and Male 2 (M2) with Female 2 (F2).

Nehru Talai with co-ordinates 25.2126 N & 74.3819 E of Bhilwara district was selected for the study of the breeding biology of BHI. It is an island-like structure with some vegetation of *Vachellia nilotica*, *Prosopis julliflora*, *Ziziphus mauritiana*, and *Salvadora persica* standing on central island which provides an excellent nesting site for BHI including heronries of Cattle

Case 2. (04vii2019)

Egrets, Great Egrets, Eurasian Spoonbills, Oriental Darters, and Night Herons.

We studied the breeding biology of BHI at Nehru Talai in Bhilwara district.

During the breeding season of 2019, we observed four different cases of polygyny at this site. In the first case (On 21 June 2019), BHI starts nest building after



Male 4 (M) mates with Female 3 (F3) when Male 3 (M3) flew away.



In the absence of Male 3 (M3), Male 5 (M5) also comes towards Female 3 (F3).



Male 5 (M5) mates with Female 3 (F3).



Fight between Male 4 (M4) & Female 3 (F3).

Case 3. (12vii2019)



Male 7 (M7) mates with Female 6 (F6) in the presence of Female 7 (F7).



Male 7 (M7) returns towards Female 7 (F7).



Male 7 (M7) with Female 7 (F7).

its pairing and site selection. During this, the M2 male of one pair goes towards the F1 female, in the absence of the M1 male and mates with her.

After that, M2 male returns to his site again when the M1 male arrives. In the second case (On 04 July 2019), we had seen that in the absence of M3 male, the M4 & M5 mails of other pairs mate with F3 female, respectively.

In the third case (On 12 July 2019), we had seen that in the absence of an M6 male, the M7 mail of other pair mates with an F6 female. In the fourth case (On 16 July 2019),

we had seen that the M9 mail of a pair, in the absence of the M8 mail of another pair, was returned to its site after mating with the F8 female of that pair.

In BHI, older males forcefully mate with younger females. The polygynous nature of Black-headed Ibis is advantageous for the male because he has a much higher chance of his progeny surviving, which means he is passing on his genes to more individuals. Polygyny is harmful to females. Lower breeding success of polygynous females than other monogynous females because of the increased breeding investment to compensate for polygynous males. The nests of polygynous females were located marginally and away from the nests of monogynous females.



Male 9 (M9) mates with Female 8 (F8).



Male 9 (M9) return toward Female 9 (F9).

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