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International Otter Survival Fund WORLD OTTER DAY, 27 May 2020

Cover photo by Kamakshi Lekshmanan.

TidBITS Ladakh's Himalayan Blue Sheep

While driving through the wintery white wonderland of Leh, through the mist hopped a little Himalayan Bharal **Pseudois nayaur.** The first glimpse of the caprid, over sheets of ice, was a moment indeed.

> The slate grey and the blue sheen skin shimmered in the morning light. Commonly called the Blue Sheep, it is medium-sized one, grows to 69-91 cm tall; males are slightly larger than the female.

TIdBITS

Bharals are found together in families. Their typical day switches between graze, stroll, and laze. They are incredibly active during the daytime, and towards the dusk, they generally disappear to rest.

They graze on grasses, however, occasionally browse on shrubs and herbs too. Though they seem friendly from a distance, they do shy away. Highly camouflaged, they make use of the rocks to hide away and freeze. Beginning November until January is the rut season when the males rub their horns on trees or shrubs. The males undergo physiological changes and extend a variety of stunts to grab the attention of female bharals. The young ones arrive during the months of June/July.

Snow Leopards are their only threat. Most monasteries in the highland protect and conserve the Bharals found around them.

by Kamakshi Lekshmanan, Coimbatore kamakshi06@gmail.com

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Additional records of Greater Short-nosed Fruit Bat Cynopterus sphinx from the Thar Desert, India



Short-nosed Fruit Bat roosts: A—Roost at Junagarh | B—Junagarh fort of Bikaner | C—Roost at Mansingh fort | D—Jalore fort. © Rakesh Kumawat.

The Greater Short-nosed Fruit Bat *Cynopterus sphinx* (Vahl, 1797) (Mammalia: Chiroptera: Pteropodidae) is one among the 14 species of old world fruit bats in the Indian subcontinent. It is found in a variety of roosts, tents, under leaves, lumped leaves, stems, cavities of barks, aerial roots and humanmade abandoned structures (Brosset 1962) feeding on more than 30 species of plants. It is listed as Least Concern on the IUCN Red List (Bates et al. 2008). This Fruit Bat has typical taxonomic features as the second finger with a claw, small wingspread (below 600mm), visible tail and four teeth in upper molar series and five in lower (Sinha 1980).

Earlier, the western part of the subcontinent was represented by a few localities as a single record from Malir, Karachi and "Kashmir Smasta" in Pakistan; Danta, Vedtial in Anand and Silvassa in Surat District of Gujarat State; Bundi, Banswara and Jhalawar of Rajasthan State.

SMALL MAMMAL MAIL



Map showing old reported sites (Bundi, Banswara, Jhalawar, Bharatpur, Sirohi, Pratapgarh, Jodhpur, Jaisalmer, Barmer & Bhinmal Jalore) and new locality (Mangarh fort, Jalore and Junagarh fort, Bikaner).

Recent studies on bat diversity and distribution revealed the anomalous pattern of their occurrence and distribution. With the effect of eco-transformation in the desert due to exposure to Indira Gandhi Nahar Pariyogna (IGNP), agroforestry practices have risen resulting in the flourishing of fruit plants in the region. This change has led to the emergence of fruit bats in this region proportionally. Fruit Bats are reported for the first time from the Thar Desert of Bikaner District of Rajasthan State.

Prakash (1963) explored the Thar Desert and the western part of Rajasthan and updated the status of bats. After the implementation of IGNP canal, the comprehensive knowledge of ecology, distribution and status of chiropteran fauna in the region was studied (Sinha 1980; Purohit & Vyas, 2009; Singh et al. 2014). Now, the IGNP canal covers more than 12 districts which gives space for work on Chiroptera demographic and ecological studies to be performed and bridge the gap in the research conducted after 1980.

In this article, we have added the new distinct localities of Short-nosed Fruit Bats in the western Indian Thar desert. This record is the second from Mansingh Fort after Bhinmal in Jalore District, the First being from Junagarh Fort in Bikaner.

We did not collect the specimens. Instead, we captured and released the individuals with the help of mist nets after the Table 1. Morphometric measurements of the Short-nosed Fruit Bat. Sigh #- Specimen studied from Jalore Fort (n=3), and ⁻- Specimen studied from Bikaner Fort (n=1). Abbreviations used: HB- Head and Body length, T-Tail length, FA- Forearm, HF- Hindfoot, E- Ear, WS- Wingspan, TIB- Tibia length. Sign (~)means no data.

Locality	Geo Location	НВ	т	FA	HF	Е	WS	TbL	Date	Refer- ence
Indian Sub- continent	~	76-113	4.5-19	64-79	12.6-18	17.5-24	309-436	~	1997	Bates & Harrison (1997)
Bhinmal	25.002ºN; 72.262ºE	~	~	~	~	~	~	~	06-02-2003	Dookia (2004)
Lathi	27.036ºN; 71.516ºE	98-108	15-18	68-75	14-17	19-23	340-378	32-35	08-10-2003	Senacha et al. (2006)
Tinwari	26.461°N; 72.921°E	98-108	15-18	68-75	14-17	19-23	340-378	32-35	08-10-2003	Senacha et al. (2006)
Mansingh Fort (MFJ1#)	25.350°N; 72.620°E	102	15	73	17	20	340	33	25-02-2009	This study
Mansingh Fort (MFJ2#)	25.350°N; 72.620°E	101	15	70	15	21	343	35	25-02-2009	This study
Mansingh Fort, (MFJ3#)	25.350°N; 72.620°E	108	16	72	17	22	350	36	25-02-2009	This study
Junagarh Fort, (JFB1 [°])	28.022ºN; 73.316ºE	106	15	72	16	22	362	37	30-03-2018	This study

measurement analysis. In Mansingh fort, we examined n=3 individuals and n=1 was captured in Junagarh fort. Later, we compared the morphological pattern and relevant taxonomical data to the available literature (Dookia 2004; Senacha et al. 2006; Srinivasulu et al. 2013) (Table 1).

Observation

During our survey in the Thar desert of Rajasthan, we recorded two diurnal roosts of the Short-nosed Fruit Bats on 25 February 2009. One roost seen at Mansingh fort of Jalore District (25.350° N; 72.620° E) and the other roost of 70–75 members located in Junagarh Fort (28.022° N; 73.316° E) of Bikaner District on 30 March 2018. Both records are taken from isolated old dark places of historical forts. The ecology of the Jalore District is influenced by semi-arid urban terrain, while Bikaner is too dry and has arid environment with dunes topology.

In Jalore, the Short-nosed Fruit Bats observed roosting in a semi-dark section of

an old fort along with two micro chiropteran species *Rhinopoma microphyllum kinneari* and *Rhinopoma hardwickii*. A similar microhabitat was observed in Junagarh Fort at Bikaner. Five consecutive chambers of the old fort of Jalore were filled up with the bats mainly of *Rhinopoma microphyllum kinneari* whereas one chamber was a roost of *Cynopterus*.

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frog leg



Sighting of threatened amphibians from the Avalanche Forest in Western Ghats, Nilgiris, Tamil Nadu

In India, approximately 410 species of amphibians are found, (www. indianamphibians.org), among which 239 are reported from the Western Ghats (Dinesh et al 2017). Avalanche, is an important tourist place in the Nilgiri District situated 25km from Ooty; it comprises of the shola-grassland complex, unique to the Western Ghats. The elevation range varies between 1800m and 2600m with the temperature ranging between 5 and 25 degree Celsius. The Avalanche forest and its surrounding areas get around 5,000mm of rainfall annually. In this, area many endemic faunal species are recorded.

Sighting of three threatened amphibians: 1. Star-eyed Bush Frog – *Raorchestes signatus* (Boulenger, 1882)

Raorchestes signatus a bush frog was observed during the field visit on 7 August 2014. This species was sighted nearby Avalanche forest department guest house (11.2993 "N 76.5922 "E) and the surrounding area that is fully covered by the shola







Raorchestes signatus.

vegetation. The dorsal colour of the bush frog varies from light-grey to black. The eye colour is black with white stripes. This species is restricted to the Nilgiri Hills of the southern Western Ghats. It is a highland species occurring up to 2,000m (Bossuyt & Dubois 2001).

2. Nilgiri Bush Frog – *Raorchestes tinniens* (Jerdon, 1853)

The Nilgiri Bush Frog (*Raorchestes tinniens*) is known from the Nilgiri Hills and surroundings. It is a terrestrial species found on the ground or under the vegetation. This species is yellowish-brown, with black eyes. Ventral side light whitish-yellow with dark spots. This species was sighted on 16 August 2014 near Upper Bhavani dam area with the surrounding area fully covered by the grassland and small patches of shola vegetation (11.2676 "N 76.5533 "E). The Bush frog has also been sighted by others near Emerald Valley (1,975m; Princy et al. 2017) and Mukurthi National Park (2,200– 2,250 m) of Nilgiri District. The landscape is

frog leg



Raorchestes tinniens.

covered by different types of vegetation such as, shola forest, grassland, wattle plantation etc. According to Kumar et al. (2017) and Princy et al. (2017), *R. tinniens* is the main diet for predators like *Ahaetulla perroteti* and *Salea horsfieldii* because of its smaller size (adult male 20.5mm and female 26.8 mm; Biju & Bossuyt 2009). This species is listed as Endangered due to predation and several anthropogenic activities.

3. Green Tree Frog – *Ghatixalus variabilis* (Jerdon, 1853)

This is a medium-sized frog we sighted on 20 April 2015 near Upper Bhavani dam surrounded by the grassland and small patches of shola vegetation (11.2676 "N 76.5533 "E). Dorsally brownish-green with irregular dark green or brownish blotches, boreal and tympanic region dark grey with brown spots, iris brownish, encircled by a golden ring. This taxon was recently



Ghatixalus variabilis.

reallocated to the new genus *Ghatixalus* and is considered to be the sister species of *Ghatixalus asterops* (Biju et al. 2008). The species can be locally abundant, although it is not uniformly common throughout its range. Loss of habitat and human interference are the two most common threats facing amphibians in India.

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Southern Spotted Hunter Hawkmoth: *Theretra sumatrensis* (Joicey & Kaye 1917): new record to Bhutan



Theretra sumatrensis

The Southern Spotted Hunter Hawkmoth *Theretra sumatrensis* described from Indonesia, Sumatra Langkat, Balei Gadjah by Joicey, J.J. & Kaye, W. J., in 1917 as *Cechenena sumatrensis*. The species is quite similar or closely related to *Theretra boisduvalii* (Bugnion 1839) and *Theretra rhesus* (Boisduvali, 1875) (Sondhi et al. 2017). Unlike *Theretra boisduvalii* which is green, *Theretra sumatrensis* is brown gray, pearlescent or violet. When present, *Theretra sumatrensis* bears a weakly marked dotted line on fourth transverse line of the anterior wings (Vaglia et al. 2010).

Theretra sumatrensis is a medium size moth belonging to sub tribe Choerocampina, tribe Macroglossini, subfamily Macroglossinae and family Sphingidae (Kitching 2019). It occurs from north east India (Sikkim, Assam,





Map showing *Theretra sumatrensis* sighted location in Bhutan

Meghalaya), south west China (Yunnan, Xizang), central Myanmar, northern Thailand, Laos, Vietnam, Peninsular Malaysia, Java, Sumatra, the Western Lesser Sundas, and Borneo (Pittaway & Kitching 2019, Sondhi et al. 2019, Sondhi et al. 2017)

Description

As stated in Joicey & Kaye (1917), *T.* sumatrensis has forewing with dull greyish brown, with an oblique black transverse line beyond the cell. A second parallel from tip to inner margin, and two further less distinct lines ending in apex but radiating out towards tornus. A black mark at base. Beneath, black in basal half; reddish irrorated with small black spots in the distal area. Outer margin greyish brown terminated by an oblique blackish line as far as vein 4, where it is set back and continued thence to tornus. Hind wing above black, paler at the margins and with a yellow patch becoming pointed distally at anal angle. The melanic forms of *Theretra sumatrensis* (form Mercedes) have much darker colouration (Holloway 1987), the outer margin of the anterior wing is almost black, and an anchor of the abdomen is covered by two dark pink scales (Eitschberger 2002). In India, the recorded flight time for *Theretra sumatrensis* was in April and October (Sondhi et al. 2019). The early stage, biology and its food plants are unknown for this species (Pittaway & Kitching 2019).

In this present paper, we report the sighting of the *Theretra sumatrensis* on the morning of



24th May 2019 at around 9:40 hour, the moth was found sitting on the leaf of Colocasia spp. near a very sacrosanct religious site, the Gomphukora under Tongzhang block (27.425°N & 91.563°E; 800m) in Trashiyangtse District, Eastern Bhutan. The vegetation in the surrounding environment was dominated by Chirpine (Pinus roxburghii) forest and undergrowth with profuse lemon grass (Cymbopogon spp.). The moth was identified by Jatishwor Singh Irungbam, University of South Bohemia, Czech Republic. Later the status of a new record and range extension of the species was confirmed by Dr. Jean Haxaire, Museum National d'Histoire Naturelle (France) on 25, May 2019.

Discussion

Earlier publications on the Sphingidae fauna of Bhutan have not recorded this species from Bhutan. Dudgeon (1898) who conducted research on moths of Sikkim and Bhutan too did not recorded this species from Bhutan. Dierl (1975) reported the presence of 10 species of Sphingidae from eastern Bhutan but not *Theretra sumatrensis*.

Recent studies on Sphingidae of Bhutan by Irungbam & Kitching (2014) reported 27 species from Tsirang district; Geilis & Wangdi (2017) reported 65 species from Bhutan including Trashiyangtse, eastern Bhutan; and Irungbum & Irungbum (2019) reported 93 species from Bhutan but *Theretra sumatrensis* was not recorded from Bhutan.

Previous studies on the Sphingidae fauna of the India have reported the presence of this species, from the northeast states of India particularly, Assam, Meghalaya, Sikkim and Arunachal Pradesh (Sondhi et al. 2019). The most recent records of two Sphingidae from eastern Bhutan; Clanidopsis exusta (Butler 1875) (Jamtsho & Irungbam 2019) and Langia zenzeroides zenzeroides Moore, 1872 (Irungbam & Norbu 2019) suggest the area is lacking rigorous taxonomic survey. Thus, the present sighting of Theretra sumatrensis in Trashiyangtse District is significant. It is the first ever confirmed record of the species from Bhutan which take country record 98 species of Sphingidae. Therefore, it would be fascinating to continue further surveys in all the parts of the country to know the exact numbers of Sphingidae present in Bhutan.

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First report *Libythea* Fabricius, 1807 from Similipal Biosphere Reserve, Odisha, India



Underwing view of Libythea Fabricius, 1807

Libythea Fabricius, 1807, commonly known as beak is characterized by enormous prolongation of the palpi giving an appearance of a beak in front of head has small and angular fore wings (Sharma et al., 2013). Genus *Libythea* is represented by 12 species throughout the world (Varshney, 2010). The different species of *Libythea* are generally uniform in size, in their peculiar and strong falcated outline, and in colouration except the specific distinction in the markings of the upperside. The upperside of their wings is brown with some tawny or whitish markings, the variations in which distinguishable one from the other of their species. The underside is clouded and striated with similar protective colouration, varying in tone in each species but uniform in style throughout the genus (Sharma et al., 2013). Genus *Libythea* Fabricius, 1807 was previously recorded from places ranging from Jammu and Kashmir to Arunachal Pradesh





Similipal Biosphere Reserve, Odisha, India.

and foothills from 400m to 3000m (Singh, 2011) while Gupta and Majumdar, 2012 claims to have sighted this genus in the areas of Arunachal Pradesh, Assam, Himachal Pradesh, Meghalaya, Sikkim and South India. Kehimkar, 2016 recorded it in the North East India, Southern India upto Maharastra and Karnataka southwards, Northern part of West Bengal and Western Himalaya whereas Smetacek, 2017 reported its presence in the forests of ascending Himalaya to more than 2400m. There is only one record of this genus namely Common beak (Libythea lepita) from Sunabeda Wildlife Sanctuary, which is situated at the farthest western part of Odisha (Palei and Rath, 2014). But Libythea Fabricius, 1807 has never been recorded from Similipal Biosphere Reserve so far (Sahu et al., 2006; Nair, 2007; Sethy and Jena, 2009; Payra et al., 2016).

Material Methods and Study Area

Sample was photographed through opportunistic survey Method (Williams, 2015) at some stage in documentation of butterflies of Similipal Biosphere Reserve, Odisha, India. On the day of 2019 (03.06.19) at around 02.24 hrs (2:24:32 AM) during the field of survey we photographed one individuals of dull greyish brown butterfly on the ground during puddling, which is situated Devkund area of Similipal Biosphere Reserve, Odisha (extends between 21.705997°N latitude and 86.450532°E longitude). Information on this species is based on observation



Place of record Similipal Biosphere Reserve, Odisha, India through Google map with Latitude and longitude.



from 02.05 PM to 02.54 PM. Specimen was photographed for further identification process with the help of High Resolution Digital Camera (Cannon 550 D with EOS 18- 55mm lens) and the identification was identified and confirmed by several field guide books (Singh, 2011; Kehimkar, 2016; Smetacek, 2017).

Results

Description

Prolonged palpi giving an appearance of a beak in front of head, dull greyish brown in Underwing view with small and angular fore wings and crenulated hindwings.

Systematic position of *Libythea* Fabricius, 1807

Class: Insecta Order: Lepidoptera Family: Nymphalidae Sub Family: Libytheinae Genus: Libythea Fabricius, 1807

Discussion

Early distributional range

Libythea Fabricius, 1807 previously recorded from Jammu and Kashmir to Arunachal Pradesh (Singh, 2011); Arunachal Pradesh, Assam, Himachal Pradesh, Meghalaya, Sikkim, South India (Gupta and Majumdar, 2012); North East India, Southern India upto Maharastra and Karnataka southwards, Northern part of West Bengal, Western Himalaya (Kehimkar, 2016); forest of ascending Himalaya to more than 2400m (Smetacek, 2017). There is only one record of from Odisha. This is Common beak (*Libythea lepita*) from Sunabeda Wildlife Sanctuary, which is situated far western part Odisha (Palei and Rath, 2014). It is the second record of *Libythea* Fabricius, 1807 from the state Odisha. But *Libythea* Fabricius, 1807 never recorded from Similipal Biosphere Reserve (Sahu et al., 2006; Nair, 2007; Sethy and Jena, 2009; Payra et al., 2016).

Habitat structure of new locality

Similipal Biosphere reserve is situated in Mayurbhanj District of the State Odisha. The Similipal Biosphere Reserve (Latitude 20°10' to 22°12' N and Longitude 85°5' to 86°' E) with an area of 5569 km² is located in the central part of Mayurbhanj district of Odisha. The two neighboring states West Bengal, Jharkhand and two neighboring districts Balasore, Keonjhar surrounded this biosphere reserve its North-East, North-West, East and South-West border respectively. It falls under the biotic province of Chotanagpur plateau. The altitude of the Biosphere Reserve varies from 40 m to 1200 m. Humidity also varies from 70% to 100%. It experienced the tropical climate with temperatures ranging from 5°-15°C in winter and 30°-45°C in summer. The annual rainfall is about 2200mm. Similipal with its unique and diverse forest type such as dry deciduous, moist deciduous and semi evergreen forest



harbours rich and endemic faunal diversity. The specimen was photographed at Devkund of Mayurbhanj District. The place of record lays 21.705997°N latitude and 86.450532°E longitude. The place is sixty km from Baripada and eighty five km from Balasore.

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Plantasia

A taxonomic note on *Hubbardia heptaneuron* in Shivamogga District, Karnataka

Hubbardia heptaneuron, an endangered grass belongs to the sub family of Pooideae (Hubbardiae tribe) (Hubbard 1960). *H. heptaneuron* was distinguished from other species by its partly trailing and then pendulous habit. It measures about 3-16 cm long, delicate, culms creeping below, rooting at lower nodes, awnless, consisting 3 stamens in flower. The other species is *H. diandra* that differs from *H. heptaneuron* by its striking tubercle-based trichomes on the glumes, the flower has 2 stamens (Chandore et al. 2012). H. heptaneuron was found in moist rocks in shady places (Potdar 2003). H. heptaneuron samples were collected by Leonard John Sedgwick (1883-1925) in 1919 from Gerusoppa falls of Karnataka. Later it was clearly described by Bor in the year 1951. This species was re-documented in Jog falls by Ramaswamy (2001); Yadav et al. (2009). The species were re-introduced

in 16 different Ghats at 108 locations of Maharashtra. Inaddition to this, they were re-introduced near the sunset point of Agumbe, Karnataka (13.581°N & 75.167°E). H. heptaneuron was distributed in Gerusoppa falls, Sharavathi Wildlife Sanctuary, Shimogga District and Arsenagundi falls, Mookambika Wildlife Sanctuary, Udupi District (Singh et al. 2015). In Maharashtra, this species was located on Tillari Ghats of the Western Ghats.

India. During our recent field survey, we collected *H. heptaneuron* from different locations of Agumbe region of the central Western Ghats of Karnataka, India.

Study Area

Agumbe is home for several endemic angiosperms (13.05°N & 75.1°E) located in the Shivamogga District in the Malnad region of Karnataka, west coast division of south India. Agumbe is declared as one of the UNESCO's World





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Hubbardia heptaneuron Bor. (a). Habitat, (b). A plant body, (c). Leaf sheath, (d). Leaf blade, (e). A spikelet: 2 - 2.5 x 0.5 mm, (f). Lower glume-Abaxial view: 1.5-2.3 x 0.2-0.3 mm, (g). Lower glume - Adaxial view, (h). Upper glume - Abaxial view, (i). Upper glume -Adaxial view, (j). Lower lemma: 2-3 x 0.1-0.3 mm, (k). Upper lemma 1.5-2.0 x 0.1-0.3 mm, (l). Stamens (0.3 - 0.5 mm) and Stigma, (m). Caryopsis 1-1.4 x 0.2-0.4 mm.

heritage site. Agumbe has a tropical monsoon climate with a warm, humid and dense forest. This region harbors a high level of biodiversity comprising several endangered species of grasses and angiosperms. The periodic field survey was conducted here from 2016 to 2018. Global Positioning System (GPS) was used to document the latitude, longitude and altitude of the study plot. Collected sample was brought to the laboratory, processed and pressed under blotting paper until the specimens completely dried. Grass species were identified through morphological characters by using standard flora (Bor, 1960; Ramaswamy, 2001; Yadav et al. 2012). In order to detect the variation in the flowers, differences in ligule, glume, lemma, palea, awn, lodicules the samples were observed under Carl zeiss Stemi 2000C Stereo microscope and Carl zeiss primo star microscopes, photographs were taken by using Axio camERc 5s camera, images were processed in Axio Vision LE(AxioVs40V4.8.20) software. The Herbarium specimen was deposited in the Herbarium of the Department of Applied Botany, Kuvempu University.

Taxonomic description *Hubbardia heptaneuron* Bor.

Annual grass. (2.5-15 cm)Up to 16cm long, nodes glabrous. Leaf blade $(0.5-3 \times 0.3-0.8 \text{ cm}) 0.5-3 \times 15 \text{mm}$ (1.5 cm) long, 5–14 nerved, acute. Inflorescence an axillary panicles. Lower glume $(2-2.5 \times 0.2-0.3 \text{ mm})$

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1.5–2.3 x 0.2–0.3 mm, 7 nerved, apex acute. Upper glume 2.2 x 0.1–0.3 mm, (5 nerved) 7 nerved. Lower lemma (1.6–2.7 x 0.4–0.5 mm) 2–2.3 x 0.1–0.3 mm, 7–9 nerved, acute. Upper lemma (1.6–2.7 x 0.4–0.5 mm) 1.5–2.0 x 0.1–0.3 mm, 7–9 nerved, acute. Stamens 3, anther 0.3–0.5 mm, style 2, 0.3–0.6 mm, Lodicules 2. Caryopsis pointed, (0.8–1 x 0.2–0.3 mm) 1–1.4 x 0.2–0.4 mm.

Sample examined: 15.ix.2017, India, Karnataka, Shivamogga District, Agumbe, central Western Ghats, 14.933°N & 76.517°E, 620m, (3m error), coll. Yogeesh Naik H S. & Y.L. Krishnamurthy.

Habitat: Wet rock surface.



Herbarium sheet of Hubbardia heptaneuron Bor.

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Bird-o-soar

At the behest of rainfall: a case of heronry formation failure in Tamil Nadu



Nesting heronry birds in the Otteri Lake (2017–2018).

Differences in climatic variables have a great influence on bird populations and it strongly affects their breeding success as well as their survival (Newton 1998; Lande et al. 2003; Fasola et al. 2010). Birds are popular indicators of environmental changes and heronry birds, in general, are good indicators for understanding the influence of monsoon and climate change on their life history (Urfi 2011). There exists a close link between heronries and monsoon pattern, and heronry birds tend to abandon breeding activities if sufficient amount of water is not available in the lake/pond (Subramanya 2005). Heronry birds are site specific and any disturbance apart from the influence of monsoon such as anthropogenic disturbances result in abandonment of the specific site. In case of Tamil Nadu most of the heronry birds nesting coincide with the onset of the northeast (NE) monsoon (Oct–Dec) (Subramanya 2005). Heronries tend to be active once NE monsoon arrives and it varies across different districts of Tamil Nadu. If monsoon fails for a year, then the heronry birds may avoid nesting and this has been reported in a few heronries in the country (Anonymous 1980; Breeden & Breeden 1982). Here we try to

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Nesting heronry birds in the Otteri Lake (2017–2018).

bring out the close association that exists between rainfall and heronry birds in the Otteri Lake (heronry), Kanchipuram District between 2017–2018 and 2018–2019 period.

Otteri Lake (12.884°N, 80.084°E) is situated in the Arignar Anna Zoological Park, Vandalur, Chennai, Tamil Nadu, India. The zoo hosts a lake which serves as nesting ground for the heronry bird species. Every year, the heronry birds arrive at this lake October–December which coincides with the NE monsoon. The tank is mainly rain-fed by the NE monsoon and when there is a failure of monsoon the tank gets dried up and the nesting is totally absent in that particular year.

A total of 14 heronry birds, Eurasian Spoonbill *Platalea leucorodia*, Little Cormorant *M. niger*, Indian Cormorant *P. fuscicollis*, Little Egret *Egretta garzetta*, Intermediate Egret *Ardea* intermedia, Cattle Egret Bubulcus ibis, Blackcrowned Night-Heron Nycticorax nycticorax, Indian Pond-Heron Ardeola gravii, Grev Heron Ardea cinerea, Painted Stork Mycteria leucocephala, Oriental White Ibis/Black headed Ibis Threskiornis melanocephalus, Oriental Darter Anhinga melanogaster, Spotbilled Pelican Pelecanus philippensis, and Asian Openbill-Stork Anastomus oscitans were recorded out of which 12 waterbirds (except Spot-billed Pelican and Asian Openbill Stork) were found to be nesting on Barringtonia acutangula in the Otteri Lake during December 2017 to March 2018 (Table). Apart from the Barringtonia spp., a few tree species especially at the periphery of the tank also served as nesting trees. Around 50 bird species have been documented in the lake (Frank 2017-18 pers. obs.). The Barringtonia spp. in this particular heronry has been planted by the forest department

Table 1. Heronry bird species with the active nests and no of individuals during breeding season (2017–2018 and 2018–2019).

Waterbird species	IUCN status	Breeding / foraging in the lake	No. of active nests counted during 2017–18	No. of active nests counted during 2018–19	Number of individuals counted during 2017–18	Number of individuals counted during 2018–19			
Eurasian Spoonbill <i>Platalea leucorodia</i>	LC	Breeding	23	0	47	0			
Little Cormorant <i>Microcarbo niger</i>	LC	Breeding	528	0	2842	24			
Indian Cormorant Phalacrocorax fuscicollis	LC	Breeding	121	0	465	0			
Little Egret <i>Egretta garzetta</i>	LC	Breeding	45	0	194	0			
Intermediate Egret Ardea intermedia	LC	Breeding	19	0	73	0			
Cattle Egret Bubulcus ibis	LC	Breeding	35	0	146	67			
Black-crowned Night-Heron Nycticorax nycticorax	LC	Breeding	68	0	224	0			
Indian Pond-Heron Ardeola grayii	LC	Breeding	21	0	60	0			
Grey Heron Ardea cinerea	LC	Breeding	42	0	83	9			
Painted Stork <i>Mycteria leucocephala</i>	NT	Breeding	2	0	15	21			
Oriental White Ibis / Black- headed Ibis <i>Threskiornis melanocephalus</i>	NT	Breeding	53	0	239	0			
Oriental Darter Anhinga melanogaster	NT	Breeding	49	0	124	12			
Spot-billed Pelican Pelecanus philippensis	NT	Foraging	0	0	8	6			
Asian Openbill-Stork Anastomus oscitans	LC	Roosting	0	0	176	0			
LC-Least Concern NT-Near Threatened									

and acts as the most important nesting tree species for waterbirds.

The actual rainfall received during NE monsoon in 2017 (Oct–Dec) in Chennai was 937.8mm compared with normal rainfall 789.9mm (Balachandran et al. 2017) whereas during NE monsoon in 2018 the actual rainfall received was 352.9mm (Report on North East Monsoon 2018). Due to meagre amount of rainfall during NE monsoon in 2018 and some of the cyclones missing the state during this period has resulted in deficit rainfall. As a result, Otteri Lake failed to attract the

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Sentinel-2 satellite data showing the presence and absence of water in the tank during January 2018 and January 2019.

waterbird species. A few water bird species like Little Cormorant, Cattle Egret, Grey Heron, Painted Stork, Oriental Darter ,and Spot-billed Pelican visited the tank but none of them stayed back due to the dry condition. Here, rainfall acts as one of the important factors in determining the nesting behaviour of waterbirds in a heronry. From conservation perspective, Zoo authorities are taking necessary steps to increase the water holding capacity of the lake by diverting the water from other areas to maintain the water level especially during the breeding season.

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Observation of ostracism in an albino Spotted Deer



An albino-Chital standing alone on forest road of Gomtara Range of Pench National Park, Madhya Pradesh, India. © Dimpi Patel.

The third largest deer in India, Chital or Spotted Deer *Axis axis* (Erxleben, 1777) (Mammalia: Artiodactyla: Cervidae) occupies plains and undulating terrain with a reddish coat in the case of fawns, spotted with white and white underparts for the adult (Sankar & Acharya 2004). Chital is endemic to South Asia, occurring in India, Sri Lanka, Nepal and Bangladesh (Prater 1934; Schaller 1967). In India, the Spotted Deer are found in diversified forest types such as dry deciduous, moist deciduous, thorn and mangrove forests (Sankar & Acharya 2004).

Chitals are basically social ungulates and their basic social unit normally consists of an adult female, offspring from the previous year, and fawns (Ables 1974). The herd usually consist of two or more social units accompanied by individuals of mixed sex and age-classes (Sankar & Acharya 2004).

Albinism is a general scientific terminology which describes conditions characterized by hypopigmentation of skin resulting in snow white body with pink limbs, snout, and ears (Menon 2003; Hayashi & Suzuki 2018). Albino animals have several drawbacks in the wild such as being prone to be located easily and accordingly turn out to be an easy prey and their unusual appearances might be the cause of rejection by other individuals of the same species (Singh 2010).

Albinism in Chital has been recorded in different parts of India (Atkinson 1932;



Study area where described individual was observed.

Ramsingh 1942; Smielowski 1987; Singh 1996; Prabhu et al. 2013; Mohan 2014; Pradhan et al. 2014; Sayyed et al. 2015). In addition to this an albino fawn was observed standing alone on a forest road of Gomtara Range of Pench National Park, Madhya Pradesh, India (21.831°N & 79.242°E) on 1st February 2014 at 1559 hours. The animal was found to be alone for about 5 minutes and no other animals or herd were seen in the vicinity during the observation time. The previous published observations of albino Chital fawns from India show that the fawn was found either with the herd or with the mother. (Prabhu et al. 2013; Pradhan et al. 2014; Sayyed et al. 2015). Moreover, during the sighting period, no presence of any herd or other sympatric ungulates was noticed for about a kilometre distance. The conspecifics of the observed albino Chital fawn may have rejected the fawn from the herd due to its abnormal appearance (McCardle 2012; Slavik et al. 2015). To the author's knowledge this is the first photographic evidence of ostracism in an albino Spotted Deer fawn.

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Report

World Wetlands Day celebrated at Pallikaranai Marshlands, Chennai, TN

Murray Rabindra Matriculation School, Pudupakkam students observed the day at Pallikaranai marshlands. Twenty two students from class VIII and IX took part. Mrs. Jessie Jeyakaran was the resource person. The students were divided in to 4 groups.

The resource person started the program with an introduction about the wetlands and its importance to the natural environment. She requested the students to record following observations at the marshland at different points. The first station they were asked to observe: are there any water bodies around; variety of plants; electrical poles erected inside; kinds of birds and building on the horizons.

The students observed that the water was deep in some places and shallow in other places, different types of plants had grown bother water plants and plants that grow on the land. The plants were all in different shades of green. Electrical power grids were seen running through these marshlands. The students observed the different types of birds nesting as families and looking for food. The colours of their feathers were different to each other and they observed the different sounds of the birds. They identified some of the birds, the duck, the seagulls, spoon bills. They observed that there were high rise buildings, 2 storied houses all around the water beds.

The resource person further explained that wetland should be saved and construction of



The students observing the quality of water.

building should not be permitted. Similarly she taught the students about migratory birds which come to our country for breeding and to avoid extreme cold.

The students were then taken to station two which is nearer to the deep part of the water body. Here the students observed different zones of the water body, watching variety of nesting birds on the trees, range of fishes and the reflection of the sky on the water.

The next activity was observing the water quality. Water was collected from the marshland poured in to the test tubes and then observed that it was turbid, yellowish in colour, contains solid particles, has fishing smell and no organisms were found for naked eye.

From these activities the students learnt wetlands are important for the environment, reduce impact of floods, provide habitat for the birds and plants and diverse living things are found in wetlands.

> Submitted by: Ms. Jessie Jeyakaran. Email: jessiejey@rediffmail.com

Report

Celebration of World Wildlife Day at Tata Steel Zoological Park, Jamshedpur, Jharkhand

Word Wildlife Day is celebrated every year on 3 March to create awareness among the public about the values and benefits of preserving wildlife which is a very crucial part of our ecosystem. This year the day was celebrated under the theme "Sustaining all life on Earth", encompassing all wild animal and plant species as key components of the world's biodiversity.

On this occasion Tata Zoo in association with "Anwesha" a local NGO, organized, a group visit for senior citizens from 'Ashirvad Bhawan Old Age Home' under the programme "reaching out to unreachable ones". An interaction session was organized with them prior to the zoo visit where Zoo Director, Bipul Chakrabarty welcomed and explained them about the Tata Zoo and its prime responsibilities. Thereafter, the author delivered a lecture on "Importance of conservation of wildlife for us with special reference to the captive animals". She also explained them about the relation between plants, animals and human beings to understand the fact that "saving of one animal can save another". This was followed by "Keeper talk on Tiger" near tiger enclosure led by S.K. Mahato, Curator, Tata Zoo and his team. The Secretary of Anwesha, Alpana Bhatacharya was also present alongwith her team members.



Seema Rani delivering a lecture to senior citizen.



Old Age Home inmates taken around the zoo.

Apart from this, to make zoo visitors aware, we also displayed standees conveying messages to save/ conserve the animals such as parakeets/Indian star tortoise/ tigers/ elephants etc. which are under threat due to the poaching and illegal wildlife trade.

> Submitted by: Dr. Seema Rani, Biologist and Education Officer, Tata Steel Zoological Park, Jamshedpur. Email: cmarani00@rediffmail.com



Communicating science for conservation

ZOO'S PRINT Publication Guidelines

We welcome articles from the conservation community of all SAARC countries, including Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, Sri Lanka and other tropical countries if relevant to SAARC countries' problems and potential.

Type — Articles of semi-scientific or technical nature. News, notes, announcements of interest to conservation community and personal opinion pieces.

Feature articles — articles of a conjectural nature — opinions, theoretical, subjective.

Case reports: case studies or notes, short factual reports and descriptions.

News and announcements — short items of news or announcements of interest to zoo and wildlife community

Cartoons, puzzles, crossword and stories

Subject matter: Captive breeding, (wild) animal husbandry and management, wildlife management, field notes, conservation biology, population dynamics, population genetics, conservation education and interpretation, wild animal welfare, conservation of flora, natural history and history of zoos. Articles on rare breeds of domestic animals are also considered.

Source: Zoos, breeding facilities, holding facilities, rescue centres, research institutes, wildlife departments, wildlife protected areas, bioparks, conservation centres, botanic gardens, museums, universities, etc. Individuals interested in conservation with information and opinions to share can submit articles ZOOS' PRINT magazine.

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Articles should by typed into a Word format and emailed to zooreach@zooreach.org. Avoid indents, all caps or any other fancy typesetting. You may send photos, illustrations, tables.

Articles which should contain citations should follow this guideline: a bibliography organized alphabetically and containing all details referred in the following style: surname, initial(s), year, title of the article, name of journal, volume, number, pages.

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International Otter Survival Fund WORLD OTTER DAY #WorldOtterDay, Wednesday 27 May 2020

CELEBRATE OTTERS - RAISE AWARENESS - EDUCATE - FUNDRAISE - PROTECT

A new year and a new decade is upon us and what a great time to put some thoughts together and plan what YOU want to do to support IOSF's 2020 #WorldOtterDay.

It's that all important day of the year for otters when we raise these fascinating animals across the globe and involve as many people as possible. It is the time to show how much you care.



All 13 otter species worldwide are still listed on the Red List of Threatened Species and we continue to work hard to bring

about changes, in particular with regard to the illegal trade for fur and pets, as well as other challenges that otters face in many countries such as environmental impact of habitat loss and the dangers of roads.

There are many different ways you can help - here are some examples:

- To do a fundraiser
- Give a talk about otters at school
- Raise awareness with posters about otters
- Post your support on social media using the all important #WorldOtterDay
- Present your research to fellow students and/or colleagues
- Hold an otter art competition.

The list is as endless as your imagination, so let it go and encourage as many other people as you can, to take part.

We want to know what you are going to do, so please tell us and we will add your #WorldOtterDay event to our world map, which we will be updating regularly (click <u>here</u> or on the map below to view). Just email Ben@otter.org

There are resources available to download from our website for participants to use some of which are being updated, so look out for changes as they happen. You will find these on our Media/Resources pages <u>here</u>

World Otter Day Grants

IOSF is again delighted to be offering three grants of £100 each towards the cost of putting on an event or carrying out some education work for #WorldOtterDay.

Applications must include the following:

Name of applicant, Organisation, if applicable, Address of applicant, Brief description of what you are planning to do, how and where, What would you do with the £100 grant?

Please submit your application <u>here</u> no later than Friday 27th March 2020 and the winning applicants will be announced on Friday 3rd April 2020.