Municipal Corporation of Greater Mumbai

Veermata Jijabhai Bhosale Udyan and Zoo

Annual Report

2019-2020

Veermata Jijabai Bhosale Udyan & Zoo
Dr. Babasaheb Ambedkar Road
Byculla (East), Mumbai 400027

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1. Report of the Officer-in-charge

MUNCIPAL CORPORATION OF GREATER MUMBAI

VEERMATA JIJABAI BHOSALE UDYAN & ZOO

From Director's Desk

Veermata Jijabai Bhosale Udyan & Zoo, Byculla, Mumbai is now undergoing a revamp and various facilities have been upgraded like public amenities, new garden plots, improvised animal health care facilities, etc. are now operational.

Under the phase 2 of modernisation project, new animal exhibits are built on immersion exhibit concept. The exhibits like Aquatic birds, Jackal, Swamp deer, Sloth bear, Leopard, Hyena are really loved at a large scale being one of its kind with aesthetic look, glass panel viewing, waterfalls, naturalistic landscape, etc.

The newly developed Bird Aviary for aquatic birds is first in India with a walk through bridge and stainless steel (SS) wire mesh fencing. The aviary is spread overan area of 18234 Sq.Ft. With vertical height of 44 feet tall. An artificial waterfall has been created to give a visual retreat. The walkthrough from the huge cage with birds around gives a unique experience. The newly developed Bird Aviary was inaugurated by Hon. Chief Minister, Maharashtra, Shri. Uddhav Thackrey along with Tourism Minister, Shri. Aaditya Thackrey on the Republic Day 26th January 2020.

The zoo has involved the latest techniques for the Leopard exhibit wherein the SS mesh structure rests on SS pylons and these pylons are interconnected with high tensile SS ropes. The exhibit has various artificially made enrichments like high resting platforms, feed hangings to stimulate natural behaviour of Leopards giving immense photo opportunities. This is the first time that a combined viewing shelter for both Hyena and Leopards has been introduced who also share a combined terrine in the wild.

The 'Miyawaki' method of tree plantation is introduced near the Royal Bengal Tiger exhibit, implying maximum trees in a minimum area to increase bio-diversity and the city's green cover. It promotes the restoration and recovery of native forest and 10 times faster growth than conventional plantation. Various native species of trees are planted close to each other, which ensures that the plants receive sunlight only from the top and grow upwards than sideways. The tree species under this method provide home and food to diverse species of insects, birds and small wildlife. Around 2400 trees of 66 different species have been planted on the

area of 450 Sq. Mtr. inside this Udyan & Zoo under Miyawaki plantation method.

The Zoo will soon reach its goal of a complete modernization with the most advanced animal exhibits, beautiful landscapes, improvised roads and pathways, visitors' amenities and overall the best experience for the visitors.

Dr. Sanjaykumar A. Tripathi
Director (Zoo)

2. History of the Zoo

Veermata Jijabai Bhosale Udyan & Zoo is one of the oldest zoos in the country & was established in 1862. This area was under the control of Agri-Horticultural Society of Western India. The management of this Udyan & Zoo was handed over to MCGM by the then state govt in 1873. The total area of this Udyan & Zoo is approx. of 53 acres and is declared as “Heritage Grade II (B)” site. This Udyan & Zoo has been given recognition as “Medium Zoo” by Central Zoo Authority, New Delhi.

3. Vision

Veermata Jijabai Bhosale Udyan and Zoo is one of the oldest zoos in the country and was established in the year 1862. The total area of the Udyan and the Zoo is approximately 53 acres and is declared as Heritage Grade II (B) site. This Udyan and Zoo has been given recognition as "Medium Zoo" by the Central Zoo Authority, New Delhi

Considering the small area of this zoo and a great footfall (around 10 to15 thousand visitors on an average per day) it is felt that this zoo should work more in educating the people for creating love, interest, empathy and awareness among general visitors, school students/teachers group, college students and representative of various organizations. Various event days related to wildlife, Nature and Environment shall be organized for the purpose in the interpretation center newly constructed at this zoo having the facilities such as a 200-seater auditorium and exhibition areas which are under development. These facilities can be used for conducting various training programme, seminars, workshops, exhibition, wildlife weeks, essay/drawing/elocution competitions and similar other activities including various audiovisual shows, wildlife movies and power point presentation etc.

Most of the New Animal Enclosures will be open and spacious (as per the area norms prescribed for Indian Animals by the Central Zoo Authority, New Delhi). The Natural environment, as per the natural habitat of the respective animals will be created. This will satisfy the basic needs of the animals and provide them comfort and security. These exhibits will also be helpful in educating the visitors about the natural habitats of the animals. There will be visitors viewing areas with the acrylic glass panels, which would not only serve the purpose of a barrier in between the animals and visitors but also shall facilitate the visitor's viewing.

4. Mission

“To engender a respect for wildlife and inspire conservation action”

The zoo aims to create an ambiance that will create awareness about wildlife and inculcate a healthy attitude towards animals. By providing naturalistic, immersion exhibits that display animals in their “wild” surroundings and by imparting information through engaging signage, the zoo aims to become a learning center, albeit in a relaxed and leisurely manner.

The future objective of the zoo is to meet world standards for animal care and husbandry, for environmental education and to be a truly memorable visitor experience.

As part of its mission, the zoo aims to help the visitor be a good zoo steward. Caring for the collection is a primary responsibility of the zoo and the visitor has an important role to play in ensuring the health and well-being of the collection. Visitors shall be briefed on what behaviors are acceptable in the zoo, how their behavior has an impact on animal health and the quality of their own experience and the reasons why respectful conduct is important. Visitor action, both at the zoo and at their home, should serve as an example to others to respect wildlife and to protect the environment on which all life depends.

It is important to educate the visitors about extinction and remind them of our losses, like the dodo, the Indian Cheetah, the Pink headed duck which were all lost due to man’s fault. Remembering our losses is important so that we may learn not to commit the same grave mistakes again and help species that are already on the brink of extinction and thus inspire conservation action amongst them.

5. Objective

The objective of the V.J.B. Udyan and Zoo is to develop in to one of the best Zoos in the country as well as abroad, by providing best facilities to the Zoo inmates as well as the visitors. Such as a well-equipped Zoo hospital, cafeteria, food kiosks, drinking water fountains, beautiful internal gardens, rain water shelters, high class Toilets etc. It aims to perform as one of the best nature Interpretation centres for creating interest and awareness about the role of a Zoo in particular and also about Nature, Wildlife and Environment in general, in the minds of people, especially school/college students and teachers. The Zoo interpretation centre having facilities such as an auditorium for conducting various educational activities and the exhibition area are under development, which will be functional in near future.

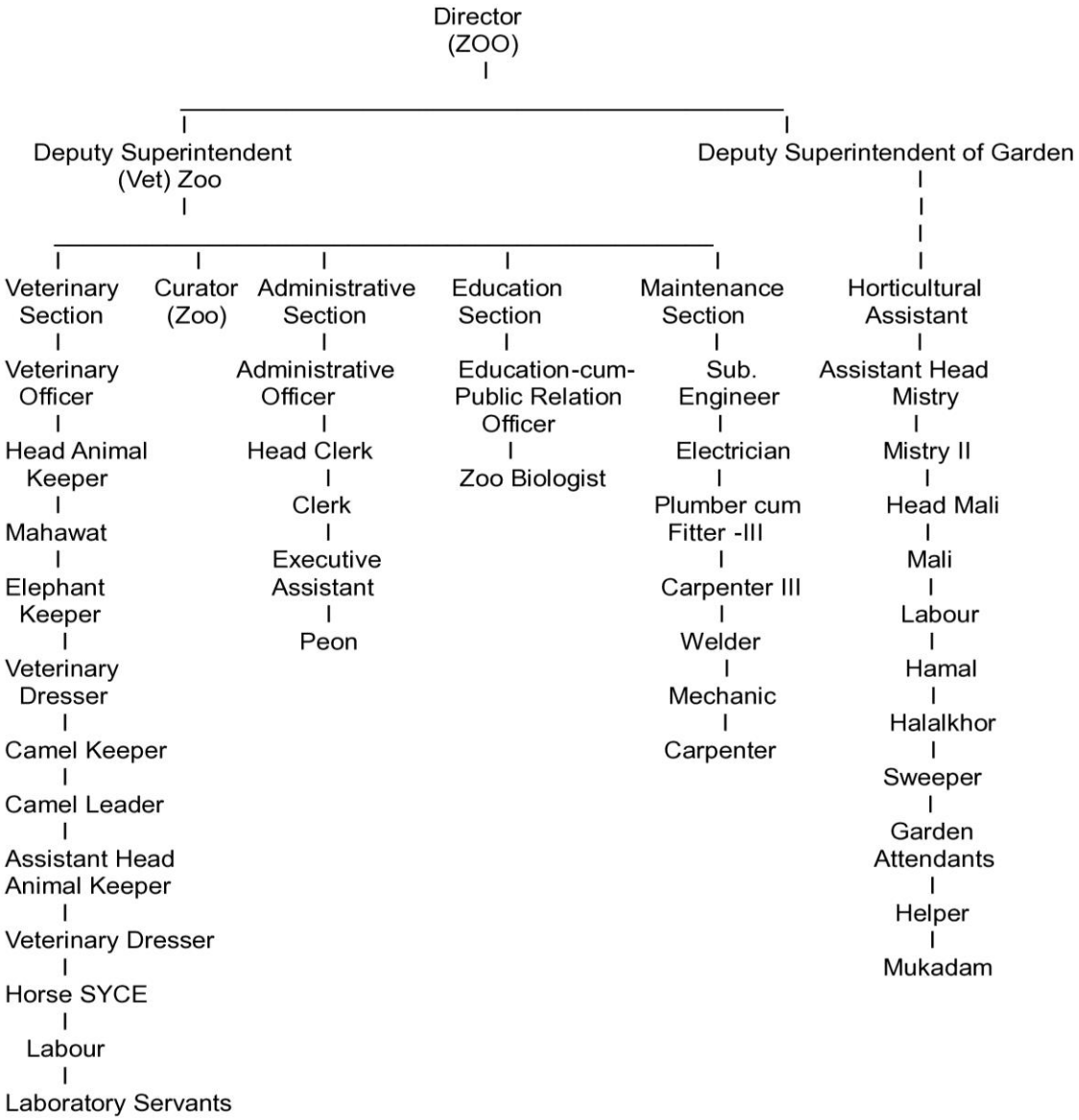
6.About us

S.No.	Particulars	Information
Basic Information about the Zoo		
1	Name of the Zoo	**Veermata Jijabai Bhosale Udyan & Zoo**
2	Year of Establishment	**1862**
3	Address of the Zoo	**Dr. Babasaheb Ambedkar Rd., Byculla (East), Mumbai- 400 027**
4	State	**Maharashtra**
5	Telephone Number	**022-223772414**
6	Fax Number	**–**
7	E-mail address	**vjbudyanzoo@yahoo.co.in** **dirzoo01@mcgm.gov.in**
8	Website	**–**
9	Distance from nearest	Airport: **16 km (Approx.**)
		Railway Station: **From Byculla Station: 550 m (Approx.)** **Reay Road Station: 700 m(Approx.)**
1033	Recognition Valid up to (Date)	**22/03/2020**
11	Category of zoo	**Medium**

S.No.	Particulars	Information
12	Area (in Hectares)	**21.4483 Hectares (Approx.)**
13	Number of Visitors (Financial Year)	Adult: **800148**
		Children: **264263**
		Total Indian: **1064411**
		Foreigners Adult: **1483** Foreigners Children: **142** Total Foreigners: **1625** Date 01.04.2019 to 15.03.2020
		Total Visitors: **1066036**
14	Visitors' Facilities Available in Zoo	**1.Ticket house with baggage counter -souvenir shop and public toilet** **2. Drinking water fountains** **3. Rain water shelters** **4. Interpretation Center** **5. Child care center** **5. Public Toilets** **6. Cafe Wild- Eatery**
15	Weekly Closure Day of the Zoo	**Wednesday**
Management Personnel of the zoo		
16	Name with designation of the Officer in-charge	**Dr. Sanjaykumar A. Tripathi** **Director (Zoo)**
	Name of the Veterinary Officer	**Dr. Komal V. Raul**
	Name of the Curator	**Dr. Devanand D. Shirsat**

S.No.	Particulars	Information
	Name of the Biologist	**Shri. Abhishek N. Satam**
	Name of the Education Officer	**-**
	Name of the Compounder/ Lab Assistant	**Shri. Gurunath Narvekar**
Owner / Operator of the Zoo		
17	*Name of the Operator	**Municipal Commissioner.** **Municipal Corporation of Greater Mumbai**
18	Address of the Operator	**2nd Floor, Municipal Head Office,** **Mumbai- 400 001.**
19	Contact details/Phone number of Operator	**022- 22620251** **022-22620525**
20	E-mail address of Operator	**mc@mcgm.gov.in**

7. Organizational chart



8. Human Resources

Sr. No.	Designation	Number of Sanctioned Posts	Names of the incumbent
1	Director (Zoo)	1	1
2	Deputy Superintendent (Vet) Zoo	1	0
3	Deputy Superintendent of Garden	1	1
4	Veterinary Officer	1	1
5	Curator (Zoo)	1	1
6	Education-cum-Public Relation Officer	1	0
7	Biologist	1	1
8	Administrative Officer	1	1
9	Head Clerk	1	1
10	Horticultural Assistant	4	3
11	Clerk	3	2
12	Executive Assistant	2	2
13	Clerk (Store)	1	1
14	Peon	2	2
15	Tracer	1	0
16	Draftsman	1	0
17	Mechanic	1	0
18	Mistri I	1	0
19	Welder	1	0
20	Helper	1	0
21	Carpenter II	1	0
22	Painter	2	0
23	Head Mali	1	0
24	Plumber cum Fitter -III	1	0
25	Garden Attendants	3	2
26	Carpenter- III	1	0
27	Mukadam	5	0

28	Mistry II	4	1
29	Mali	81	52
30	Sweeper	14	2
31	HalalKhor	1	0
32	Store Attendant	1	0
33	Garden Labourer	15	3
34	Hamal	2	0
35	Cart Driver	2	0
36	Head Animal Keeper	1	0
37	Mahawat	3	2
38	Elephant Keeper	1	1
39	Camel Keeper	2	0
40	Camel Leader	1	0
41	Assistant Head Animal Keeper	2	0
42	Veterinary Dresser	1	1
43	Animal Keeper	25	11
44	Assistant Veterinary dresser	1	1
45	Horse Syce	2	0
46	Zoo Labourer	14	2
47	Laboratory Servants	2	1
	TOTAL	216	96

9. Capacity building of zoo personnel

Sr. No.	Name & Designation of the zoo personnel	Subject matter of training	Period of training	Name of the institution where the training attended
1.	Dr. S. A. Tripathi, Zoo Director	Interactive session for Zoo directors	22nd May 2019	New Delhi
2.	a) Mr. Maruti Makadwala b) Mr. Mahesh Kashte (Zoo animal keeper)	Capacity building programme for zoo keeper	25th-27th June 2019	Sundarvan Nature Discovery Centre, Ahmedabad

10. Zoo Advisory Committee – Zoo Advisory board formed and approved by Municipal Commissioner on 10.10.2019. Meetings not conducted due to COVID situation.

11. Health Advisory Committee-

a. Date of Constitution- 05.07.2011

b. Members

1.) Dr. D. U. Lokhande

Professor, Dept. of Surgery & Radiology

2.) Dr. D.G. Dighe

Asst. Professor, Dept. of Medicine

3.) Dr. G.M. Gadegaonkar

Asst. Professor, Dept. of Animal Nutrition

4.) Dr. P.V. Meshram

Asst. Professor, Dept. of Pathology

5.) Dr. P. E. Awari

Asst. Professor, Dept. of Poultry Science,

c. Dates on which meetings held during the year- Meetings not conducted due to COVID situation.

12. Statement of income and expenditure of the Zoo

Financial Year 2019-2020			
Annual Revenue (Rs.) Entry fees		4,57,46,150.00	
Annual Expenditure (Rs.)			
Allotted Revenue Budget	Consumed Revenue Expdt	Allotted Capital Budget	Consumed Capital Expdt
26,81,98,747.00	16,64,79,180.00	99,25.00,000.00	99,18,92,317.00

13. Daily Feed Schedule of animals

Sr. No.	Species	Feed item	Quantity		Day of fasting
			Winter	Summer	
1.	Elephant	a) Hay b) Rice Straw c) Lucern grass d) Banana e) Carrots f) Sugar Cane g) Pony pellets + wheat bran + oil cake h) Jaggery I) Garlic+pepper+ sesame seeds+ turmeric+ methi +linseed+ karli	20 kg. 10 kg. 55 kg. 1 Dozen 15 kg. 25 kg. 5 kg. + 5 kg. + 0.8 kg. 500gm 1.5kg	5 % less feed	None
2.	Hippopotamus	a) Soaked Gram + Maize b) Wheat Bran c) Lucern grass	6 Kg. 10 Kg. 30 Kg.	5 % less feed	None
3.	Sambar, Nilgai	a) Soaked gram + maize b) Wheat bran + Oil cake c) Carrots d) Lucern Grass e) Hay f) Cattle Feed g) Bananas h) Rock salt	½ Kg. ½Kg.+100gm ¼ Kg. 2 Kg. 1 Kg. ½ Kg 4-5 nos.	5 % less feed	None

4.	Black Buck, Spotted Deer, Barking Deer	a) Soaked Gram + Maize b) Wheat Bran c) Carrots d) Lucern Grass e) Hay f) Cattle Feed	½ Kg. ½ Kg. ¼ Kg. 1 Kg. 1 Kg. ¼ Kg	5 % less feed	None
5.	Swamp Deer	1) Soaked gram + maize b) Wheat bran + Oil cake c) Carrots d) Lucern Grass e) Hay f) Cattle Feed g) Bananas h) Rock salt	½ Kg. ½ Kg.+100gm ¼ Kg. 2 Kg. 1 Kg. ½ Kg 4-5 nos.	5 % less feed	
6.	Monkey	a) Groundnuts b) Socked gram + Maize c) Carrots d) Banana e) Ladies finger, Beet, Tomato, Cucumber f) Other vegetables and Fruits (apple, guava, seasonal fruit) g) Water Melon	100 gms. 100 gms. 50 gms. 4 No. }80 gms. }1 Kg. 100gms 5 % less feed	5 % less feed	None

7.	Striped Hyena	• Chicken/Beef with bone	4 Kgs.	4 Kgs.	Thursday
		• Liver	200 gms.	200 gms.	
		• Rock Salt	Always avail	Always avail	
8.	Leopard	• Chicken/Beef with bone	5 Kgs.	5 Kgs.	Thursday
		• Liver	200 gms.	200 gms.	
		• Rock Salt	Always avail	Always avail	
9.	Royal Bengal Tiger	• Chicken/Beef with bone	12 Kgs.	12 Kgs.	Thursday
		• Liver	400 gms.	400 gms.	
		• Rock Salt	Always avail	Always avail	
10.	Golden Jackal	• Chicken/Beef with bone	1.5 Kgs.	1.5 Kgs.	Thursday
		• Liver	50 gms.	50 gms.	
		• Rock Salt	Always avail	Always avail	
11.	Sloth Bear	• Porridge (rice, milk, jaggery, eggs)	1 litre (½ kg, 1 litre, 100 gms, 4nos.)	1 litre (½ kg, 1 litre, 100 gms, 4nos.)	None

		• papaya • water melon • apple • banana • chikoo • Salad leaves • cabbage • beetroot • carrot • groundnut with cover • honey	500gm 1 Kg 1 nos. ½ dozen 03 nos. 250 gms 100 gms 50 gms 250 gms 100 gms 20ml		
12.	Wild Boar	a) Wheat bran + Oil cake b) Carrots c) Lucern Grass d) Hay e) Bananas f) Rock salt g) sweet potato h) sugar cane i) palak j). cucumber	½ Kg.+100gm 2kg 2 Kg. 1 Kg. 4-5 nos. 1 kg 750 gms 1kg 300gms	½ Kg.+100gm 2kg 2 Kg. 1 Kg. 4-5 nos. 1 kg 750 gms 1kg 300gms	None
13.	Snakes	a) Mice	1 No.	1 No.	Depending on the size
14.	Crocodile	a) Chicken b) Fish	3 kg 3 kg	3 kg 3 kg	Feeding done once a week
15.	Gharial	a) Fish	6 kg	6 kg	Feeding done once a week

16.	Indian Flapshell Turtle (per turtle)	a) Fish b) Minced chicken	100 gm 100 gm	100 gm 100 gm	None
17.	Indian Pond turtle (per turtle)	a) Fish b) Minced chicken c) mix leafy vegetables (salad leaves, red amaranth, corriander)	50 gm 50 gm 70 gms	50 gm 50 gm 70 gm	None
18.	Pied Horn Bill	a) Plantain (Banana) b) Papaya c) Minced meat d) Seasonal fruits	4 Nos. 100 gms. 30 gms. 50gms	4 Nos. 100 gms. 30 gms. 50gms	None
19.	Adjutant stork/ Painted Stork	a) Fish	500 gms.	500 gms.	None
20.	Pelican	a) Fish	2 Kgs.	2 Kgs.	None
21.	Macaw (per pair)/ African Grey Parrot	a) Apple, Chickoo b) Groundnuts with cover c) Sugar cane d) Guava e) Sunflower seed f) Paddy g) Cuttle fish Bone h) Corn Cobs i) Green peas	300 gms. 200 gms. 200 gms. 100 gms. 100 gms. 50 gms. Always avail. In season In season	300 gms. 200 gms. 200 gms. 100 gms. 100 gms. 50 gms. Always avail. In season In season	None
22.	Budgerigar (per pair)	a) Kang (Khursani) b) Fruits	300 gms. 100 gms.	300 gms. 100 gms.	None

		c) Coriander Leafy Veg. d) Cuttle Fish Bone	200 gms. Always available	200 gms. Always available	
23.	Crane	a) Mixed Grain. b) Fish c) Mixed Leafy vegetables	250 gms. 200 gms. 50 gms.	250 gms. 200 gms. 50 gms.	None
24.	Cockatiel (Per pair)	a) Kang b) Sunflower seed c) Mixed vegetables d) Mash (chonga) e) Cuttle Fish Bone	50 gms. 50 gms. 100 gms. 50 gms. Always avail.	50 gms. 50 gms. 100 gms. 50 gms. Always avail.	None
25.	Red Crown Crane	a) Fish b) Mixed Grain c) Mixed vegetables d) Mixed Fruits	300 gms. 250 gms. 100 gms. 100 gms.	300 gms. 250 gms. 100 gms. 100 gms.	None
26.	Humboldt Penguins	Sardine/Eel/ Bombay Duck/ Mackerel/ Indian Salmon/ Anchovies	700-800 gms	700-800 gms	None
27.	Indian Peafowl	Sardine/Eel/ Bombay Duck/ Mackerel/ Indian Salmon/ Anchovies	700-800 gms	700-800 gms	N0ne
28.	Emu	a) Mixed grains (crushed) b) Mix- leafy vegetables c) Mix fruits d) Soaked grams e) Boiled eggs f) Lucern grass g) Bird Feed	250 gms 100 gms 200 gms 50 gms ½ egg 200 gms 250 gms	250 gms 100 gms 200 gms 50 gms ½ egg 200 gms 250 gms	None

14. Vaccination Schedule of Animals

Sr. no.	Species	Disease vaccinated for	Name of the vaccine and dosage/quantity used	Periodicity	Remarks
1.	Striped Hyena, Golden Jackal, Sloth Bear	a) Canine Distemper b)Canine Leptospira-canicola, pomona grippotyphosa, and icterohaemorrhagica c)Canine Adenovirus type 2 d) Canine Parainfluenza e) Canine Parvovirus	7 in 1 vaccine	Annually	Subcutaneous
		a) Canine Rabies	Anti-Rabies vaccine	Annually	
		a) Canine Corona virus	Corona vaccine	Annually	
2.	Leopard, Royal Bengal Tiger	a) Feline Calcivirus b) Feline Rhinotracheitis virus c) Feline Panleucopenia	Feligen vaccine	Annually	Subcutaneous
		a) Canine Rabies	Anti-Rabies vaccine	Annually	
3.	All birds	a) Ranikhet disease	Lasota vaccine/ Ranikhet vaccine	Biannually	Drinking water

15. Deworming Schedule of Animals

Sr. no.	Class of animals	Species	Drug used	Month
1.	Carnivores	Hyena, Golden Jackal, Leopard, Royal Bengal Tiger	Fenbendazole	June, October, December, March
2.	Omnivores	Monkeys	Fenbendazole/ Albendazole	April, June, November, March
		Sloth Bear	Febantel+ Pyrantel+Praziquantel/ Fenbendazole	June, December, March
3.	Herbivores	Elephants	Ivermectin	April, July, November, March
		Hippopotamus	Fenbendazole	
		Deer	Fenbendazole	
		Antelope	Fenbendazole	
		Nilgai	Fenbendazole	
		Wild Boar	Fenbendazole	
4.	Birds	Peafowl, Parakeet, Macaw, Cockatoo, Cockateil, Budgerigar, Parrot, Emu, Crane, Stork, Heron, Pelican *etc.*	Fenbendazole	April, July, November, March
		Humboldt Penguin.	Fenbendazole	Every six months
5.	Reptiles	Crocodile, Turtle, Tortoise, Snake	Fenbendazole	April, July, December, March

16. Disinfection Schedule

Disinfectants in the form of sprays, solutions, powders eg. Potassium permanganate, Dettol, Aseptic, Kohrsoline, Bleaching powder are used to maintain hygiene in and around animal enclosures.

Sr. No.	Class of animals	Species	Type of enclosure	Disinfectant used and method	Frequency of disinfection
1.	Carnivores	Hyena Tiger Leopard Jackal	Feed House and water body	KMno4, Kohrsolin, Virkon	Daily with water and once a week with disinfectant
2.	Omnivores	Monkeys Sloth Bear	Feed House and water body	KMno4, Kohrsolin, Virkon	Daily with water and once a week with disinfectant
3.	Herbivores	Elephants Hippopotamus Deer Antelope Nilgai Wild Boar	Feed House and water body	KMno4, Kohrsolin, Virkon	Water body cleaned once a week.
4.	Birds	Pheasant Parakeet Macaw Cockatoo Cockateil Budgerigar Parrot Emu Crane Stork Heron, Pelican *etc.*	Enclosure and water body	KMno4, Kohrsolin, Virkon	Water body cleaned once a week.

		Humboldt penguin	Indoor enclosure and water pool	Clean chlorinated water and Kohrsolin	Enclosure is cleaned everyday with clean chlorinated water and once a week with kohrsolin. Water body is vacuumed once a week and the water is filtered through LSS 24*7

17. Health check -up of employees for zoonotic diseases

Animal keepers in batches of 3-4 keepers are sent each year for annual T.B. Testing at Municipal Medical Centre, Byculla.

Sr. no.	Name	Designation	Date of Health check-up	Findings of Health Check up
1	Yashwant Khandekar	Asst. Head Animal keeper	24-02-2020	Negative
2	Israr Khan	Asst. Head Animal keeper	24-02-2020	Negative
3	Omkar Satardekar	Labour	02-03-2020	Negative
4	Ravindra Nivate	Animal keeper	29-02-2020	Negative
5	Arun Bhangane	Animal keeper	28-02-2020	Negative
6	Rakesh Jadhav	Animal keeper	29-02-2020	Negative
7	Jeetsingh Bali	Animal keeper	03-03-2020	Negative
8	Jamal Khan	Animal keeper	28-02-2020	Negative
9	Vilas Amberkar	Lab Assitant	02-03-2020	Negative
10	Sanju Kharva	Animal keeper	03-03-2020	Negative
11	Balkrishna Shelke	Labour	28-02-2020	Negative
13	Mahesh Choughule	Animal keeper	03-03-2020	Negative
14	Amol shinde	Animal keeper	29-02-2020	Negative
15	Ramesh Pawar	Animal keeper	28-02-2020	Negative
16	Balu Waghmare	Animal keeper	02-03-2020	Negative
17	Arun Bhangane	Animal keeper	28-02-2020	Negative
18	Gurunath Narvekar	Compounder	24-02-2020	Negative
20	Ashish Tambe	Animal keeper	28-02-2020	Negative

22	Saif Khan	Labour	29-02-2020	Negative
23	Maruti Makadwala	Animal keeper	24-02-2020	Negative
24	Amit Waghmare	Labour	02-03-2020	Negative
25	Amethibalan	Labour	28-02-2020	Negative
26	Nitin Kadam	Head Animal Keeper	24-02-2020	Negative
27	Sachin Satam	Labour	29-02-2020	Negative
28	Mahesh Kashte	Labour	29-02-2020	Negative
30	Suresh Rathod	Animal keeper	03-03-2020	Negative
33	Siddharth Kadam	Animal keeper	02-03-2020	Negative

18. Developmental Works carried out in the zoo during the year 2019-20

This Udyan & Zoo is under complete revamping and the development works are being undertaken phase wise. Phase II works started in the year 2018-19. Under Phase I, the following works got completed in this year.

The garden and zoo have undergone several changes in the last century but none is more transformational and significant than the one that is being done, albeit in a phased manner. In the past several months, the VJBU authorities have been working on building several enclosures as well as procuring a variety of species of animals and birds

The almost real, natural surroundings and environment created for animals with larger space for them ensures less stress on animals. The animals then enjoy their enclosures exclusively built for them. The zoo has done away with old moat concepts and given more space for animal paddock area. With animal teasing a common issue in India zoos, the VJBU has built several sound-proof, glass-viewing enclosures where visitors can get clear view of animals. A lot of thought and planning has gone into this so as to increase space for animals whilst not cutting any trees inside or outside enclosures. This ensures natural tree shade to the animals and shelter to the birds. These pioneering structures looks beautiful and elegant and has been modeled on several international zoos like the ones in Singapore, Bronx Zoo in New York, San Diego in California, or the Australia Zoo. Soundproof glass ensures the heckling or noise created by humans do not disturb the animals while they are immersed in their own natural habitat. The animal enclosures are provided with spacious animal night cells, squeeze cages for examination and treatments, kraal areas and animal keeper's room. LSS set ups are installed to ensure good quality water in the exhibits.

Leopard Exhibit:

The zoo has involved the latest techniques for the Leopard exhibit wherein the Stainless steel (SS) mesh structure rests on SS pylons and these pylons are interconnected with high tensile SS ropes. The 18m long pylon is erected using a single pin locking arrangement sandwiched between two SS plates. This is the first time that such a technique is used in India for animal exhibits. The exhibit has plantation indigenous to Sanjay Gandhi National Park, Borivali, a shallow water body with a water fall, high resting platforms, natural trees for climbing and artificial feed enrichment trees to hang meat in order to stimulate their natural behaviour of climbing and balancing. This offers immense photo opportunities of the majestic leopard. The pair of leopards also come close to the glass enclosures and give close-up view to people, thus enthralling them. Many naturalists can also observe the natural behaviour of territory markings.

Common visitor ramp for Hyena and Leopard exhibit at VJBU & Zoo

Common visitor gallery for Hyena and Leopard exhibit at VJBU & Zoo

Common visitor gallery for Hyena and Leopard exhibit at VJBU & Zoo

Informative and attractive signage in Leopard exhibit at VJBU & Zoo

Informative and attractive signage in Leopard exhibit at VJBU & Zoo

Informative and attractive signage in Leopard exhibit at VJBU & Zoo

Female Leopard Pintu in Leopard exhibit at VJBU & Zoo

Male Leopard Drogon in Leopard exhibit at VJBU & Zoo

Hyena Exhibit:

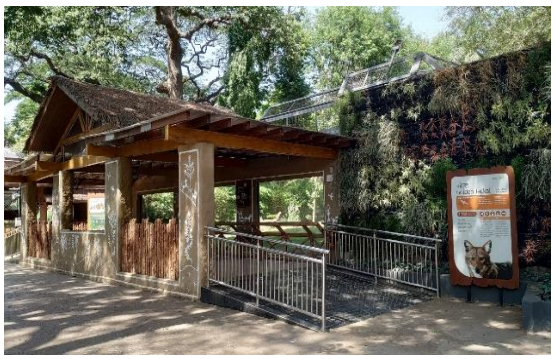
Considering the nocturnal nature of the Striped Hyenas, the Hyena exhibit has been designed in such a way that the visitors get a good view of the Hyena through the glass viewing while the Hyenas have enough dense plantation and spacious dens for resting without getting disturbed by the visitors. The beautiful hexagonal viewing gallery for hyena and leopard enclosures with multiple glass viewing areas offer a wonderful chance for visitors to see these rare, elusive animals and observe their behaviour. Since these enclosures are near each other, visitors can see both these species. It is also a selfie point where people can take pictures.

Informative and attractive signage in Hyena exhibit at VJBU & Zoo

Male Hyena in Hyena exhibit at VJBU & Zoo

Jackal Exhibit:

The jackal exhibit is provided with two dens for resting and shelter, a small water body with waterfall and a landscape with fruiting trees, varieties of grass species. While the exhibit walls are deep enough to prevent escape of jackals, the exhibit also has open spaces with red soil for the jackals to show/sustain their natural burrowing behaviour. The viewing gallery has the famous Warli art through which natural village surroundings are depicted thus enabling visitors to better appreciate how man and animal co-exist around national parks of India.



Visitors viewing gallery at Jackal exhibit at VJBU & Zoo

Jackal inside Jackal exhibit at VJBU & Zoo

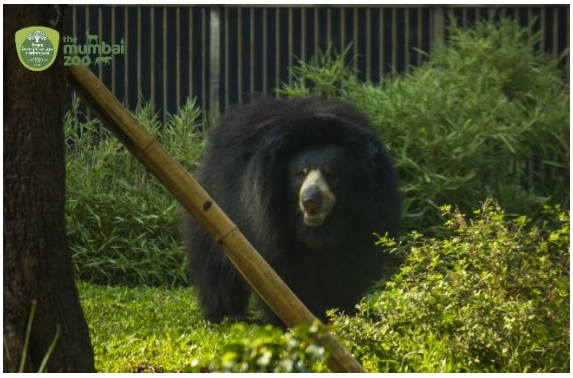
Sloth bear Exhibit:

In order to mimic a tropical evergreen forest for the Sloth Bears, the exhibit design for the Sloth Bears includes a lush green landscape with fruiting trees, dense bamboo plantation for hiding and a variety of indigenous grass. The rich red soil layer in the exhibit attracts ants and other insects which keeps the Sloth Bears busy digging and sniffing the entire exhibit thereby stimulating its natural behaviours. The exhibit also has a variety of enrichments like bridges, dens, a water body with waterfall and has automatic sensors that sprinkle water when the bear walks in a specific area. The soothing water bath helps reduce stress among animals especially in summer. The entire exhibit has electric fencing.

Glass viewing in visitors gallery at Sloth bear exhibit at VJBU & Zoo

Informative signages at the entry of Sloth bear exhibit at VJBU & Zoo

Paddock area of Sloth bear exhibit at VJBU & Zoo



Sloth bear Shivani in Sloth bear exhibit at VJBU & Zoo

Aqua bird aviary:

The Bird aviary located near the main entrance is a walk through Aquatic bird avairy constructed with Stainless steel wire rope mesh based on European technology, also first of its kind in India. Apart from being durable and strong, it does not require much maintenance. The walk through bird aviary allows visitors to walk right inside the exhibit over a 3 meter wide bridge allowing a splendid view of the birds without the hindrance of a wire mesh. The aviary has a central huge waterfall flowing into the water body giving the effect of a stream. Alongside the water body are various nesting and resting areas for birds in the form of natural and artificial trees, perches, ropes, tree logs and rock beds. A variety of indigenous plants and trees are planted along the periphery to give the birds a natural habitat. The birds like Pelicans, Red crown crane, Painted storks, night herons, Black headed Ibis and Demoiselle crane will be the major attraction. The passionate visitors spend a lot of time engaging in photo shoots of birds.

Walk through Aquatic Bird aviary at VJBU & Zoo

Walk through bridge inside Aquatic Bird aviary at VJBU & Zoo

Inner View of Aquatic bird aviary at VJBU & Zoo

Turtle and tortoise:

The turtle and tortoise exhibits are designed in such a way that visitors can appreciate the difference between these aquatic and terrestrial reptiles. The turtle exhibit includes shaded water bodies with glass viewing so that the visitors can see the various activities of the turtles under water. The clarity and quality of the water is maintained by LSS set up. The exhibits are also provided with open land areas with grass patches and soil patches for the turtles to rest, bask and nest.

The tortoise exhibit has more of grass areas and soil areas for them to show their natural behaviour like the ones during nesting. The exhibit is also provided with over head lamps to provide warmth during cold nights.

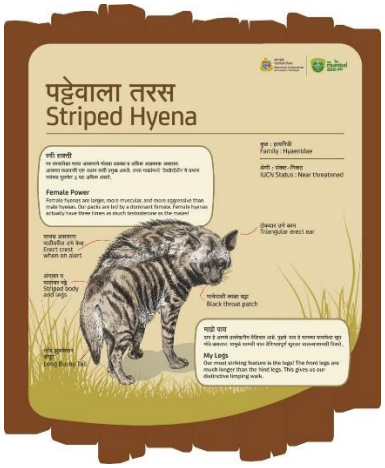
Signages at Turtle and Tortoise at VJBU & Zoo

Glass viewing at Turtle and Tortoise at VJBU & Zoo

Signages:

The signages for the animal exhibits are more pictorial and self-explanatory which are easy to be assimilated by the layman.

They include valuable information regarding the animal's current status in the wild, its habitat and behavior, important characteristics and threats to their population thereby inculcating a sense of responsibility towards their conservation among the visitor.



Along with naturalists, there is a lot of knowledge and learning for the young minds. Animals are also closely watched by zoo officials and teams and, within all the modern enclosures, every enclosure has separate holding and pen area where animals can be easily isolated and treated without much stress.

On a normal weekday, the zoo attracts about 15-20,000 visitors. With some of the new enclosures opening to public soon, this number is expected to grow significantly, and the zoo will definitely be a must-visit bucket list of locals as well as tourists visiting Mumbai.

19. Education and Awareness programmes during the year

Celebration of "World Earth Day" (22nd April 2019)

The World Earth Day was celebrated at this Udyan & Zoo on 20th April 2019 in collaboration with the Paryavaran Dakshata Mandal, Thane.

A Zoo tour was given to the students of Poorva Byculla BMC School by Shri. Anil L. Paranjpe, Education Cum PRO, VJB Udyan and Zoo in the morning followed by a film show on 'Environment and Wildlife' by Miss. Surabhi Walavalkar and Miss. Chitra Mhaske of Paryavaran Dakshata Mandal, Thane

Celebration of "World Biodiversity Day" (22nd May 2019)

The World Biodiversity Day was celebrated at this Udyan & Zoo on Saturday, 25th May 2019 since on Wednesday, 22nd May, the zoo was closed for visitors for maintenance works.

The Nature Trails were conducted from 7am to 10am, inside the premises for the visitors of VJB Udyan and Zoo for observing different zoo animals, free-ranging birds, and some rare trees by the experts Mr. Joshi and Mr. Bharat from the Friends of Tree Organisation as well as officials and zoo Volunteers.

Thereafter, the visitors were guided to the Zoo auditorium where they were given a presentation by Shri. Anil L. Paranjpe, Education Cum PRO about Modernisation of VJB Udyan and Zoo. This was followed by a presentation on topic "Biodiversity in the premises of VJB Udyan and Zoo' by Shri. Ashish Thoke, zoo volunteer. The visitors were also shown a film on 'Biodiversity in Western Ghats, Kolhapur, Devarai' by Paryavaran Dakshata Mandal, Thane.

The programme was ended by playing the National Anthem of Biodiversity. In all 50 persons of different age groups participated in the said programme

Celebration of "World Enviroment Day" (5th June 2019)

The World Enviroment Day 2019 was celebrated on 5th June 2019. A group of Teachers from Mumbai Vidnyan Adhyapak Mandal participated in the said programme.

In the beginning Shri. Anil L. Paranjpe, Education-Cum-P.R.O., V.J.B. Udyan & Zoo welcomed the participants and briefed them about the modern concepts of zoos in India as per the National Zoo Policy, adopted by Central Zoo Authority, New Delhi. He mentioned that the main objective of zoo is not entertainment but protection and conservation of Wild fauna, especially endangered species and their re-establishment in the wild and educating the general visitors, school students, and teaches from creating empathy, interest and awareness in their minds about the wildlife, nature and environment. Further E.P.R.O. briefed about the various educational activities being conducted at this Udyan & Zoo. The introductory lecture was followed by Nature Trail inside the premises of this Udyan & Zoo. The participants were told to observe different Zoo animals/birds, free ranging animals and some rare trees. An appropriate information about the flora and fauna in the premises was given to them during the said trail.

In the afternoon, the participants were given a presentation on insects named 'Joy at finger tips' by Mr. Alok Shewade. This was followed by another presentation on 'Snakes of India' by Mr. Ashish Thoke, zoo volunteer. On the occasion of World Environment Day, Mumbai Vidnyan Adhyapak Mandal launched their magazine " Utprerak " at the end of the event.

Celebration of Global Tiger Day (29th July 2019)

The **"Global Tiger Day"** was celebrated on 29th July 2019 at the Interpretation Centre at Veermata Jijabai Bhosle Udyan & Zoo.

In all 100 participants were present for the event which included 50 Municipal school students from Poorva Byculla Hindi Municipal School and 50 BMC school teachers.

The participants were given information by Dr. Aditya Akerkar, Professor, S.I.E.S College, Mumbai, about the Tiger in terms of their external characteristics by using a life size model of a Tiger. They were also told about the habits, habitats, of the Tigers. More emphasis was given on the important role performed by the Tigers in the food chain and need for their protection & conservation.

The programme ended with a question/answer session, wherein the students and teachers enthusiastically asked various questions and received important information about the Tigers.

Celebration of Wildelife Week (1st to 6th October 2019)

The Wildlife Week 2019 was celebrated from 1st October to 6th October 2019. An exhibition on **"Wildlife Photography"** was organised and displayed in the Zoo Interpretation Centre at this Zoo during the period. The exhibition opening ceremony was graced by Shri. Sudhir Naik, Deputy Municipal Commissioner **. The visitors could enjoy the photo exhibition for the entire week.

On the first day, a lecture and demonstration on aquarium set up and management was given by Mr. Mayur Dev, Senior Vice President of Still Water Aquatics to 45 students of S.I.ES. College.

During the wildlife week, different activities were conducted at the zoo. Our volunteer, Shri. Ahsish Thoke presented a lecture on 'Wild Mammals of India' to 50 students of Poorva Byculla Hindi Municipal School which was followed by a film show on Crows by Neeraj Chawla.

A guided tour of the zoo hospital facility, new exhibits and the quarantine facility was given to the veterinary students of Bombay Veterinary College by Dr. Devanand, Curator-Zoo and Shri. Anil Paranjpe, EPRO emphasising on the new concepts adopted by the zoo in planning of the new exhibits and facilities. Dr. Komal Raul, Veterinary Officer, gave a demonstration on the use of tranquilizing equipment for the students. The students were also given a presentation on Modernization of Mumbai Zoo' by our Director, Dr. S.A. Tripathi.

Film shows on Snakes of India and Crows were also conducted during the week for the students. The students were also given a presentation on 'Care and Management of Humboldt Penguins in Captivity' by Dr. Madhumita Kale and another presentation on 'Marine Mammals of India and Importance of their Conservation' by Dr. Neha Shah. Later Shri. Prathamesh Desai. President and Co founder of Birds of Thane and Raigad District (BOTRD) gave a presentation and birding and identification keys to the students.

Animal welfare Fortnightly Programmes

In all four Animal welfare Fortnightly Programmes were organised for the Municipal School Students in E-Ward during the second fortnight of January 2019. The programmes such as introductory lecture, Penguin exhibit visit, Zoo guided tour and question-answer sessions were conducted for the participants.

20. Important events and happenings:-

Death Anniversary of Veermata Jijabai Bhosale (as per date)

The Death Anniversary of Veermata Jijabai Bhosale, as per date was observed on Wednesday, the 17th June 2019. Hon. Mayor of Mumbai, Shrimati. Kishori Pednekar, Shri. Ramakant Rahate, Local Corporator and Dr. Sanjay Tripathi, Director (Zoo) paid homage to Jijamata by offering garlands to the statue of Veermata Jijabai Bhosale and Bal Shivaji at V.J.B.Udyan & Zoo other officials from V.J.B.Udyan & Zoo remained present at the occasion.

Death Anniversary of Veermata Jijabai Bhosale (as per the Solar Calender)

The 345th Death Anniversary of Veermata Jijabai Bhosale, as per the Solar Calender was observed on Saturday, the 14th June 2019.

Dr. Devanand Sirsat, Curator-Zoo and Shri. Abhishek Satam, Biologist-Zoo paid homage to Jijamata by offering garlands to the statue of Veermata Jijabai Bhosale and Bal Shivaji at V.J.B.Udyan & Zoo. Other zoo staff remained present at the occasion.

Celebration of Birth Anniversary of Veermata Jijabai Bhosale at V.J.B. Udyan & Zoo (10th January 2020 - as per the Solar Calender)

The Birth Anniversary of Veermata Jijabai Bhosale was celebrated by offering garlands to the statutes of Veermata Jijabai Bhosale & Balshivaji at the hands of Shri. Sudhir Naik, Dy. Commissioner (General Administration) on 10th January 2020 at Veermata Jijabai Bhosale Udyan-Zoo. Other Zoo officials remained present to grace the occasion.

Celebration of 422nd Birth Anniversary of Veermata Jijabai Bhosale at V.J.B. Udyan & Zoo (as per date) 12 January 2020

Hon. Mayor of Mumbai, Shrimati. Kishori Pednekar, Shri. Ramakant Rahate, Local Corporator, Dr. Sanjay Tripathi, Director (Zoo) and other zoo officials paid homage to Jijamata by offering garlands to the statue of Veermata Jijabai Bhosale and Bal Shivaji at V.J.B.Udyan & Zoo.

Inaugration of the new zoo animal exhibits at V.J.B. Udyan & Zoo 26th January 2020

The Hon. Chief Minister of Maharashtra, Shri. Udhav Ji Thackeray inaugurated the new exhibits (Aqua bird walk through aviary, Sloth Bear exhibit, Golden Jackal exhibit, Hyena and Leopard exhibit) at V.J.B. Udyan and Zoo on 26th January, 2020 along with Hon. Cabinet Minister

of Tourism and Environment (Gov. of Maharashtra), Shri. Aditya Ji Thackeray, Hon. Mayor of Mumbai, Shrimati. Kishori Pednekar and Hon. Municipal Commissioner, Shri. Pravin Pardesi. Other Zoo officials remained present to grace the occasion.



Volunteers Training Prgramme

Two international student volunteers, Miss. Sanaya Jairath from Manchester (31.07.2019 to 03.08.2019) and Miss. Malaika Sequeira from Sri Lanka (08.07.2019 to 23.07.2019) were given training on environmental feed enrichment, feed preparation for zoo animals, basic record keeping and were allowed to observe treatments of different zoo animals.

The Volunteer training programmes were conducted for NSS students and stundents from other departments of Sophia college, Mumbai, Bhavan's Hazarimal Somani college, chawpaty Mumbai, Maharshi Dayanand college, Parel, Mumbai, S.I.E.S college, sion , Mumbai , Kishinchand Chellaram college colaba Mumbai. The volunteers actively participated in educating visitors about the Humboldt Penguins and other zoo animals by imparting interesting information about various points such as distribution, habits, habitat, food, breeding and other interesting facts to the general visitors especially on weekends and also during celebration of event days at V.J.B. Udyan and Zoo.

Internship Students

Seven Veterinary internship students from COVAS, Parbhani, Maharashtra were trained on remote drug delivery systems, Care and management of reptiles and birds in captivity, different drug administration routes in reptiles and birds, feeding schedules of zoo animals etc. during 16.05.2019 to 23.05.2019.

21. Seasonal special arrangements for upkeep of animals

Summer:

1.) **Feed enrichment**: Whole fruits like watermelon and seasonal fruits, whole tender coconuts, ice lollies and ice fruit cakes made out of cut seasonal fruits and sweetened water with jaggery syrup are offered to monkeys and elephants. Whole watermelons and pumpkins are also provided to the hippopotamus.

2.) **Enclosure enrichment:**

Wet mud patches in the enclosures are provided for the deer to cool off in the Summer.

Small water pools are provided for the monkeys in the enclosures.

Roofs of the bird enclosures are covered with palm leaves.

Monsoon:

Animal enclosure roofs are covered with Tarpaulin sheets.

Dry hay is provided in all animal houses and sheds of deer enclosures to keep the deer dry and warm during the rains. Similarly, jute gunny bags are provided to monkeys and hyaenas.

Winter:

Dry hay is provided in all deer animal houses and sheds to keep the deer warm during Winter. Similarly, jute gunny bags are provided to monkeys and hyaenas.

Humboldt Penguin Enrichment at V.J.B. Udyan & Zoo

Penguins are pelagic birds and have an aquatic lifestyle. In wild, most of the time is spent in water foraging for aquatic prey. Enrichment plays an important role in the physical and mental well being of captive animals. Enrichment helps in enhancing the bird's natural behaviour. A few uses of enrichment, which we observed for the penguins at V.J.B. Udyan & Zoo, are as follows:

It enables them to spend maximum time in water. This reduces theoccurrence of stereotypic behaviour, foot and feather issues in these birds.Enrichment plays key role in utilisation of the enclosure. Humboldt penguinsare shy and generally require time to adapt to a new enclosure. On shifting of the penguins from quarantine to the exhibit area, the same enrichment program as in the quarantine, was followed. Initially, the birds would understandably be reluctant to explore certain corners of the exhibit, as well as their nesting areas. Use of a variety of enrichment activities enabled us to not only make the birds comfortable with the keeper and doctor staff, but also with their new surroundings.

Enrichment Strategies:-

A daily protocol for enrichment of Humboldt penguins at V.J.B. Udyan & Zoo is followed, as listed in the table 1. Use of more than one type of enrichment method is carried out. Maximum amount of time is spent with these birds during the enrichment activities. This not

only helps in understanding their normal behaviour, but also helps in observing any health abnormalities, if present.

Table 1: Schedule of enrichment activities and their uses

Sr. no.	Type of enrichment	Observations
1	Use of mirror reflection	Penguins seem to get attracted to bright lights and hence this type of enrichment is used when the birds need to get used to newly added objects into the exhibit. E.g.: Nest boxes, Crates, weight check.
2	Use of Laser Pointer	The Pointer is a green coloured light. Its purpose is same as that of the mirror reflection, however it can be utilised in the absence of sunlight.
3	Use of soap bubbles	It allows birds to spend Maximum time in and out of water. The birds like to chase the bubbles, and this increases their active time.
4	Fish ice cakes	This type of feed enrichment helps the birds in bringing out their natural foraging behaviour. The birds have to wait till the ice melts and the quantity of fish that is consumed daily is given in this Ice-cake form.
5	Use of slides, rings and balls	Rings: These are used as tools. Penguins use their body in such a way that the ring passes down their body. Slides: The birds maintain body balance and slide through. Ball: Since these are floating in water, they hold their breath, take it to water depths and then come back to the surface. These give them better practice for breath holding.

After use of the above variety of enrichment, it was observed that the use of laser pointer was the most attractive enrichment for penguins. Hence this tool was used to get the penguins to the corners that they wouldn't otherwise explore. Similar Pattern was followed for days, after which the birds eventually started exploring every corner of the exhibit.

Humboldt penguin enrichment has been effective in meeting the basic goals of animal welfare i.e. to maintain the animal in good physical as well as mental health.

22. Research work carried out and publications- None

23. Conservation breeding Programme of the zoo- None

24. Important cases during 2019-2020 at VJBU and Zoos

Induction of molting in a captive female Humboldt Penguin (*Spheniscus humboldti*) using managemental practices- a Case Report

Summary

Inability of a female Humboldt Penguin (*Spheniscus humboldti*) to undergo the annual molting process with correlating behavioural changes. Different methods and changes in managemental practices for induction of molt are discussed below.

Introduction

Molting is an annual process in the life of a penguin, during which old feathers are replaced with new ones. Physiologically speaking, it is a highly stressful and energy demanding process in these avian species, due to the short duration of time during which molting occurs in penguins. The average molting period observed in V.J.B. Udyan & Zoo is 15-20 days for completion of the whole process. However, some birds either fail to undergo molting annually or are unable to complete their molt. Molting problems in captivity are mainly associated with light, which includes the day-night cycle maintained in captivity, and its intensity and spectrum. In addition, factors like nutrition, fatty acids deficiencies and level of humidity maintained in exhibits may also be directly or indirectly linked with molting failure.

Case History

A female Humboldt Penguin aged 4.5 years was unable to undergo molting and had skipped molting for 1 year. In addition, she was observed showing signs of depression, reduced appetite, disinterest in playing with the colony. During this period, she spent majority of her time only with her mate and her weight was observed to have reduced. There was loss of dorsal hock feathers noted. This loss of feathers was progressive over the next few months and she eventually lost most of her back feathers until she molted. Considering all the above-mentioned changes in physical as well as psychological well-being, certain managemental changes were made in her daily routine in order to stimulate molting. These managemental changes were directed with an aim of syncing her reproductive cycle, which would in turn help in induction of her annual molt.

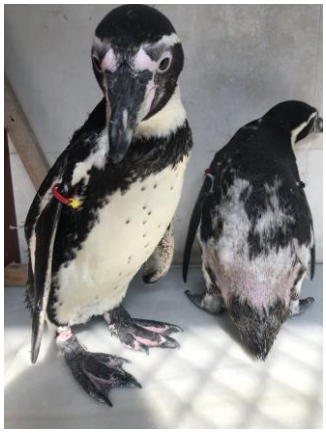
Material and Methods

Inability to undergo molting correlated with the lack of breeding activity had caused a state of depression and disinterest in this female penguin. She had successfully completed her annual molt in August 2017 and started showing these changes in behaviour from June 2018. Due to the

skipped molting, her feather quality was noted to have become poor from October 2018. During this whole season from June 2018, she wanted to be in her nest only, and feed at the nest as well. After several attempts to breed proved to be unsuccessful till October 2018, their nesting material was removed to signal the end of breeding season and facilitate her molting. Treatment plan included supplementation with Thiamine, Vitamin E, Seacod, Silymarin and calcium. Apart from this, she was provided with sunlight exposure for 30 mins everyday. Further, we found that the most effective managemental practice was provision of nesting material and dummy egg. She incubated the dummy egg for 40 days, during which she was fed at the nest and special attention was given to her with regards to feeding. Her diet was slightly altered and more amount of oily fish was given to her separately to facilitate molting. Weight gain was noted during this period. There was a lot of positive progress in her behaviour after the removal of dummy egg. Her appetite was back to normal and it was made sure that she ate 800g fish per day. The pair was showing good nesting behaviour and collection of nesting material was noted. Her weight increased from 4kg to 5.5kg in a span of 15 days. She finally completed molting by the end of September 2019.

Discussion

From this case, we found that small changes in captive management of the penguins affect their molting and reproductive cycles. We were successfully able to stimulate this penguins' molting by only changing some aspects of their captive management, without using any hormonal treatment. This penguin finally went on to lay eggs for the first time after completing her molting.



Loss of back feathers

Incubating dummy egg

Just after completing molting

Incubating egg after molting

24. Animal Acquisition / transferred / exchange during the year-

Acquisition of Swamp deer (1M:1F) from Kanpur Zoological Park in exchange of Military Macaw (1 pair), Night Heron (3 pairs) on 08-03-2019.

Sr. No.	Zoo	Animals Acquired	No.s	Animals Transferred in exchange	From	Nos
	Pilikula Zoo, Managlore	Leopard	1 M + 1F	Stork Painted	Veermata Jijabai Bhosale Udyan & Zoo	2 M + 2F
		Golden Jackal	1 M + 1F	Parrot African Grey		1M + 1F
		Indian Peafowl	1 M + 1F	Parakeet Alexandrine		2M
	Surat Zoo, Gujarat	Sloth Bear	1F	Stork Painted	Veermata Jijabai Bhosale Udyan & Zoo	2 M + 2F
		Golden Jackal	1 M + 1F	Parrot African Grey		1M + 1F
	Donation from Mysore Zoo	Striped Hyena	1M+1F	Nil	Nil	Nil
	Aurangabad Zoo	Royal Brngal Tiger	1M + 1F	a) Spotted Deer b) Painted Stork	Veermata Jijabai Bhosale Udyan & Zoo	2M + 2F 2M + 2F

25. Rescue and Rehabilitation of wild animals carried out by the zoo- None

26. Annual Inventory of animals

Veermata Jijabai Bhosale Udyan – Zoo, Mumbai
Endangered Species (Sch I & II)
Inventory from 01-04-2019 to 31-03-2020

Sr. no	Species	Scientific Name	Stock as on 01-04-19				Birth			Acquired			Disposal			Death			Stock as on 31-03-20			
			M	F	U	T	M	F	U	M	F	U	M	F	U	M	F	U	M	F	U	T
A	**Mammals**																					
1	Black Buck	*Antelope cervicapra*	0	1	0	1	-	-	-	-	-	-	-		-		1	-	0	0	0	0
2	Elephant Indian	*Elephas maximus*	0	2	0	2	-	-	-	-	-	-	-	-	-	-	-	-	0	2	0	2
3	Macaque Rhesus	*Macaca mulatta*	7	4	6	17	3	-	1	-	-	-	-	-	-	1		-	9	4	7	20
4	Swamp Deer	*Rucervus duvaucelli*	1	1	0	2	-	-	-	-	-	-	-	-	-	-	1	-	1	0	0	1
5	Leopard	*Panthera pardus*	0	0	0	0	-	-	-	1	1	-	-	-	-	-	-	-	1	1	0	2
6	Golden Jackal	*Canis lupus*	0	0	0	0	1	-	-	2	2	-	-	-	-	-	-	-	3	2	0	5
7	Sloth Bear	*Melarsus ursinus*	0	0	0	0	-	-	-		1	-	-	-	-	-	-	-	0	1	0	1
8	Striped Hyena	*Hyaena hyaena*	0	0	0	0	-	-	-	1	1	-	-	-	-	-	-	-	1	1	0	2
9	Royal Bengal Tiger	*Panthera tigrid tigris*	0	0	0	0	-	-	-	1	1	-	-	-	-	-	-	-	1	1	0	2
	Total of A		8	8	6	22	4	0	1	5	6	0	0	0	0	1	2	0	16	12	7	35
B	**Birds**		**M**	**F**	**U**	**T**	**M**	**F**	**U**	**M**	**F**	**U**	**M**	**F**	**U**	**M**	**F**	**U**	**M**	**F**	**U**	**T**
1	Hornbill Indian Pied	*Anthracoceros malabaricus*	0	1	0	1	-	-	-	-	-	-	-	-	-	-	-	-	0	1	0	1
2	Indian Peafowl	*Pavo cristatus*	0	0	0	0				1	1								1	1	0	2
	Total of B		**0**	**1**	**0**	**1**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**2**	**0**	**3**
C	**Reptiles**		**M**	**F**	**U**	**T**	**M**	**F**	**U**	**M**	**F**	**U**	**M**	**F**	**U**	**M**	**F**	**U**	**M**	**F**	**U**	**T**
1	Cobra Indian	*Naja naja*	1	0	1	2	-	-	-	-	-	-	-	-	-	-	-	-	1	0	1	2
2	Crocodile Long Snouted	*Gavialis gangeticus*	2	0	0	2	-	-	-	-	-	-	-	-	-	-	-	-	2	0	0	2
3	Crocodile Marsh (Mugger)	*Crocodylus palustris*	0	4	2	6	-	-	-	-	-		-	-	-		-	-	0	4	2	6
4	Python Indian Rock	*Python molurus*	0	0	4	4	-	-	-	-	-	-	-	-	-	-	-	-	0	0	4	4
5	Rat Snake	*Ptyas mucosus*	0	0	2	2	-	-	-	-	-	-	-	-	-	-	-	-	0	0	2	2
6	Turtle Indian Black	*Melanochelys trijuga*	0	0	5	5	-	-	-	-	-	-	-	-	-	-	-	-	0	0	5	5
7	Indian Flapshell Turtle		0	0	34	34	-	-	-	-	-	9	-	-	-	-	-	30	0	0	13	13
	Total of C		**3**	**4**	**48**	**55**	**0**	**0**	**0**	**0**	**0**	**9**	**0**	**0**	**0**	**0**	**0**	**30**	**3**	**4**	**27**	**34**
	Total of A+B+C		**11**	**13**	**54**	**78**	**4**	**0**	**1**	**6**	**7**	**9**	**0**	**0**	**0**	**1**	**2**	**30**	**17**	**18**	**37**	**72**
				(9 Flap shell turtles found in Crocodile Pond in zoo premises while dewatering the Pond)																		

Veermata Jijabai Bhosale Udyan – Zoo, Mumbai
Species (Sch III & IV)
Annual Inventory from 01-04-2019 to 31-03-2020

Sr. no	Endangered Species	Scientific Name	Stock as on 01-04-19				Birth			Acquired			Disposal			Death			Stock as on 30-03-20			
D			**M**	**F**	**U**	**T**	**M**	**F**	**U**	**M**	**F**	**U**	**M**	**F**	**U**	**M**	**F**	**U**	**M**	**F**	**U**	**T**
1	Crane Demoiselle	*Anthropoides virgo*	1	0	0	1	-	-	-	-	-	-	-	-	-	-	-	-	1	0	0	1
2	Crane Sarus	*Grus antigone*	1	0	0	1	-	-	-	-	-	-	-	-	-	-	-	-	1	0	0	1
3	Heron Night	*Nycticorax nycticorax*	0	0	36	36	-	-	6	-	-	-	-	-	-	-	-	-	0	0	42	42
4	Ibis White	*Threskiornis melanocephala*	0	1	0	1	-	-	-	-	-	-	-	-	-		-	-	0	1	0	1
5	Parakeet Alexandrine	*Psittacula eupatria*	11	4	0	15	-	-	-	-	-	-	2	-	-	-	1	-	9	3	0	12
6	Parakeet Red Breasted	*Psittacula alexandri*	2	0	0	2	-	-	-	-	-	-	-	-	-	1	-	-	1	0	0	1
7	Pelican Rosy / White	*Pelecanus onocrotalus*	1	1	0	2	-	-	-	-	-	-	-	-	-	-	-	-	1	1	0	2
8	Stork Adjutant	*Leptoptilos dubius*	1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	1	1	2	4
9	Stork Painted	*Mycteria leucocephala*	4	8	14	26	-	-	-	-	-	-	6	6	-	-	-	-	0	2	12	14
	Total of D		**21**	**15**	**52**	**88**	**0**	**0**	**6**	**0**	**0**	**0**	**8**	**6**	**0**	**1**	**1**	**0**	**14**	**8**	**56**	**78**
E	**Mammals**		**M**	**F**	**U**	**T**	**M**	**F**	**U**	**M**	**F**	**U**	**M**	**F**	**U**	**M**	**F**	**U**	**M**	**F**	**U**	**T**
1	Barking Deer	*Muntiacus Muntjack*	4	6	11	21	-	-	5	-	-	-	-	-	-	4	3	-	0	3	16	19
2	Sambar Deer	*Cervus unicolor*	2	10	0	12	1	-	-	-	-	-	-	-	-	2	4	-	1	6	0	7
3	Spotted Deer	*Axis axis*	5	21	6	32	10	1		-	-	-	2	2	-	7	7	-	6	13	6	25
4	Nilgai / Blue Bull	*Boselaphus tragocamelus*	1	0	0	1	-	-	-	-	-	-	-	-	-	1	-	-	0	0	0	0
5	Wild Boar	*Sus scrofa*	0	1	0	1	-	-	-	-	-	-	-	-	-	-	-	-	0	1	0	1
	Total of E		**12**	**38**	**17**	**67**	**11**	**1**	**5**	**0**	**0**	**0**	**2**	**2**	**0**	**14**	**14**	**0**	**7**	**23**	**22**	**52**
	Total of D + E		**33**	**53**	**69**	**155**	**11**	**1**	**11**	**0**	**0**	**0**	**10**	**8**	**0**	**15**	**15**	**0**	**21**	**31**	**78**	**130**

Veermata Jijabai Bhosale Udyan – Zoo, Mumbai
Other Species (Sch III & IV)
Annual Inventory from 01-04-2019 to 31-03-2020

Sr. no	Species (III & IV)	Scientific Name	Stock as on 01-04-19				Birth			Acquired			Disposal			Death			Stock as on 30-03-20			
E	**Birds**		**M**	**F**	**U**	**T**	**M**	**F**	**U**	**M**	**F**	**U**	**M**	**F**	**U**	**M**	**F**	**U**	**M**	**F**	**U**	**T**
1	Budgerigar	*Melopsittacus undulates*	9	22	4	35	-	-		-	-	-	-	-	-				9	22	4	35
2	Cockatiel grey	*Nymphicus hollandicus*	2	3	11	16	-	-	1	-	-	-	-	-	-		-	-	2	3	12	17
3	Cockatiel White	*Nymphicus hollandicus*	2	2	5	9	-	-	-	-	-	-	-	-	-	1	-	-	1	2	5	8
4	Cockatoo White	*Cacatua alba*	1	0	1	2	-	-	-	-	-	-	-	-	-	-	-	-	1	0	1	2
5	Crane	*Grus japonicus*	3	2	0	5	-	-	-	-	-	-	-	-	-	-	-	-	3	2	0	5

	Crowned Red																				
6	Emu	*Dromaius novaehollandiae*	0	2	5	7										-	2	0	2	3	5
7	Macaw Military	*Ara militaris*	7	1	0	8	-	-		-	-	-			-	2		5	1	0	6
8	Parrot African Grey	*Psittacus erithacus*	3	8	0	11	-	-	-	-	-	-	2	2		1	1		0	5	0	5
9	Humboldt Penguin	*Spheniscus humboldti*	3	4	0	7		-		-	-	-						-	3	4	0	7
10	Pheasant Golden	*Chrysolophus pictus*	1	0	0	1	-	-	-	-	-	-						-	1	0	0	1
	Total		**31**	**44**	**26**	**101**	**0**	**0**	**1**	**0**	**0**	**0**	**2**	**2**	**0**	**4**	**1**	**2**	**25**	**41**	**25**	**91**
			(2 unknown Emu identified as males on postmortem)																		
	Mammals		**M**	**F**	**U**	**T**	**M**	**F**	**U**	**M**	**F**	**U**	**M**	**F**	**U**	**M**	**F**	**U**	**M**	**F**	**U**	**T**
1	Hippopotamus	*Hippopotamus amphibius*	2	2	0	4				-	-	-	-	-	-	-			2	2	0	4
Mammals – 13 species, 91, Birds – 21 species, 172, Reptiles – 7 species, 34																						

Acquisition report of Endangered and other Sp. of Mammals/ Birds/ Reptiles at V. J. B. Udyan & Zoo from 01-04-2019 to 30-03-2020					
Sr. No.	**Name of Species**	**Scientific name**	**Date of Acquisition**	**No. & Sex**	**Remarks**
1	Indian Flapshell Turtle	*Lissemys punctata*	01-04-2019	9 U	Found in crocodile Pond while dewatering
2	Leopard	*Panthera pardus*	28-04-2019	1 M + 1F	Exchange basis from Pilikula Zoo, Managlore
3	Golden Jackal	*Canis lupus*	28-04-2019	1 M + 1F	Exchange basis from Pilikula Zoo, Managlore
4	Indian Peafowl	*Pavo cristatus*	28-04-2019	1 M + 1F	Exchange basis from Pilikula Zoo, Managlore
5	Sloth Bear	*Melarsus ursinus*	18-05-2019	1F	Exchange basis from Surat Zoo, Gujarat
6	Golden Jackal	*Canis lupus*	18-05-2019	1 M + 1F	Exchange basis from Surat Zoo, Gujarat
7	Striped Hyena	*Hyaena hyaena*	02-01-20	1M1F	Donation from Mysore Zoo
8	Royal Brngal Tiger	*Panthera tigris tigris*	12-02-20	1M + 1F	Received from Aurangabad Zoo for animal exchange program

Disposition report of Endangered and other Sp. of Mammals/ Birds/ Reptiles at V. J. B. Udyan & Zoo from 01-04-2019 to 30-03-2020					
Sr. No.	**Name of Species**	**Scientific name**	**Date of Disposition**	**No. & Sex**	**Remarks**
1	Stork Painted	*Mycteria leucocephala*	22-04-2019	2 M + 2F	Shifted to Pilikula Zoo, Mangalore
2	Parrot African Grey	*Psittacus erithacus*	22-04-2019	1M + 1F	Shifted to Pilikula Zoo, Mangalore
3	Parakeet Alexandrine	*Psittacula eupatria*	22-04-2019	2M	Shifted to Pilikula Zoo , Mangalore
4	Stork Painted	*Mycteria leucocephala*	17-5-2019	2 M + 2F	Shifted to Surat Zoo, Gujarat
5	Parrot African Grey	*Psittacus erithacus*		1M + 1F	Shifted to Surat Zoo, Gujarat
6	Spotted Deer	*Axis axis*	10-02-20	2M + 2F	Sent to Aurangabad Zoo for animal exchange program
7	Painted Stork	*Mycteria leucocephala*	10-02-20	2M + 2F	Sent to Aurangabad Zoo for animal exchange program

Annual Birth report of Endangered and other Sp. of Mammals/ Birds/ Reptiles at V. J. B. Udyan Zoo from 01-04-2019 to 30-03-2020				
Sr. No.	**Name of Species**	**Scientific name**	**Date of Birth**	**No. & Sex**
1	Spotted Deer	*Axis axis*	14-04-2019	1 M
2	Macaque Rhesus	*Macaca mulatta*	26-04-2019	1 M
3	Spotted Deer	*Axis axis*	30-04-2019	1 U
4	Macaque Rhesus	*Macaca mulatta*	01-05-2019	1 M
5	Barking Deer	*Muntiacus Muntjack*	11-05-2019	1 U
6	Spotted Deer	*Axis axis*	22-05-2019	2M
7	Spotted Deer	*Axis axis*	07-06-2019	1 U
8	Macaque Rhesus	*Macaca mulatta*	22-06-2019	1 U
9	Cockatiel grey	*Nymphicus hollandicus*	28-06-2019	1 U
10	Sambar Deer	*Cervus unicolor*	22-07-2019	1 U
11	Heron Night	*Nycticorax nycticorax*	30-08-2019	10 U
12	Heron Night	*Nycticorax nycticorax*	31-08-2019	20 U
13	Heron Night	*Nycticorax nycticorax*	10-09-2019	1 U
14	Heron Night	*Nycticorax nycticorax*	12-09-2019	2U
15	Spotted Deer	*Axis axis*	25-09-2019	1 U
16	Spotted Deer	*Axis axis*	04-10-2019	1 U
17	Barking Deer	*Muntiacus Muntjack*	04-10-2019	1 U
18	Spotted Deer	*Axis axis*	31-10-2019	1 U
19	Spotted Deer	*Axis axis*	20-11-2019	1 U
20	Spotted Deer	*Axis axis*	22-11-2019	1 U
21	Barking Deer	*Muntiacus muntjack*	18-12-2019	1 U
22	Barking Deer	*Muntiacus muntjack*	23-12-2019	1 U
23	Barking Deer	*Muntiacus muntjack*	01-01-2020	1 U
24	Spotted Deer	*Axis axis*	22-01-2020	1 U
25	Golden Jackal	*Canis lupus*	03-03-2020	1M
26	Rhesus Macaque	*Macaca mulata*	26-03-2020	1M

Egg report of Crocodile **(*Crocodylus palustris*)**						
Sr. No.	**Date of egg lay**	**No. of eggs**	**Date of incubation**	**Date of hatch**	**Date of egg disposed**	**Method of incubation**
1	Crocodile	*Crocodylus palustris*	18-04-2019	29	20- Artificial incubation 6 – Natural incubation	3 eggs broken discarded
Egg report of Humboldt Penguin (*Spheniscus humboldti*)						
Sr. No.	**Date of egg lay**	**No. of eggs**	**Date of incubation**	**Date of hatch**	**Date of egg disposed**	**Method of incubation**

27. Mortality of Animal

Death/Disposed report of Endangered and other Sp. of Mammals/ Birds/ Reptiles at V. J. B. Udyan Zoo from 01-04-2019 to 30-04-2019					
Sr. No.	**Name of Species**	**Scientific name**	**Date of Death**	**No. & Sex**	**Cause of Death/Disposal**
1	Black Buck	*Antelope cervicapra*	15-04-2019	1F	cardiac shock, old age
2	Parakeet Red Breasted	*Psittacula alexandri*	18-04-2019	1M	cardiac shock, old age
3	Barking Deer	*Muntiacus Muntjack*	29-04-2019	1F	Putrified
4	Barking Deer	*Muntiacus Muntjack*	06-05-2019	1F	cardiac shock, old age
5	Nilgai / Blue Bull	*Boselaphus tragocamelus*	13-5-2019	1M	Ascitis, multiple growth on liver, lung, spleen
6	Indian Flapshell Turtle	*Lissemys punctata*	21-05-2019	1U	Putrified
7	Spotted Deer	*Axis axis*	26-05-2019	1M	Cardiac shock
8	Parrot African Grey	*Psittacus erithacus*	30-05-2019	1F	Cardiac Shock , hepatitis
9	Barking Deer	*Muntiacus Muntjack*	04-06-2019	1M	h/o Head injuiry, septicemia
10	Spotted Deer	*Axis axis*	08-06-2019	1F	cardiac shock, pale liver
11	Indian Flapshell Turtle	*Lissemys punctata*	16-6-2019	2 M	cardiac shock, stomach empty
12	Indian Flapshell Turtle	*Lissemys punctata*	16-6-2019	1U	Putrified
13	Indian Flapshell Turtle	*Lissemys punctata*	17-06-2019	1F	Egg retention, septicemia
14	Spotted Deer	*Axis axis*	18-06-2019	1M	Respiratory failure
15	Indian Flapshell Turtle	*Lissemys punctata*	19-06-2019	2M	cardiac shock, stomach empty
16	Indian Flapshell Turtle	*Lissemys punctata*	21-06-2019	1F	cardiac shock, stomach empty
17	Indian Flapshell Turtle	*Lissemys punctata*	21-06-2019	1U	Putrified
18	Indian Flapshell Turtle	*Lissemys punctata*	22-06-2019	2M	cardiac shock, stomach empty
19	Indian Flapshell Turtle	*Lissemys punctata*	25-06-2019	1M	cardiac shock, leisons on kidney
20	Indian Flapshell Turtle	*Lissemys punctata*	27-06-2019	1M	cardiac shock, stomach empty, septicemia
21	Macaw Military	*Ara militaris*	01-07-2019	1U	Sent for Taxidermy
22	Indian Flapshell Turtle	*Lissemys punctata*	02-07-2019	1M	Cardiac shock
23	Indian Flapshell Turtle	*Lissemys punctata*	03-07-2019	1F	Egg Yolk Peritonitis
24	Barking Deer	*Muntiacus Muntjack*	05-07-2019	1F	Suspected T.T. , septicemia
25	Macaque Rhesus	*Macaca mulatta*	14-07-2019	1M	Cardiac shock, head injuiry
26	Indian Flapshell Turtle	*Lissemys punctata*	14-07-2019	1F	Putrified
27	Sambar Deer	*Cervus unicolor*	17-07-2019	1M	Congestive Heart Failure
28	Sambar Deer	*Cervus unicolor*	17-07-2019	1F	Respiratory Failure
29	Indian Flapshell Turtle	*Lissemys punctata*	17-07-2019	1M	Putrified carcass
30	Indian Flapshell Turtle	*Lissemys punctata*	17-07-2019	1M	Cardiac shock

31	Barking Deer	*Muntiacus Muntjack*	18-07-2019	1M	Cardiac shock
32	Spotted Deer	*Axis axis*	19-07-2019	1M	Haemorrhagic shock
33	Indian Flapshell Turtle	*Lissemys punctata*	21-07-2019	1F	Cardiac shock, hepatitis
34	Indian Flapshell Turtle	*Lissemys punctata*	22-07-2019	1M	Hepatic failure
35	Sambar Deer	*Cervus unicolor*	23-07-2019	1M	Cardiac shock
36	Indian Flapshell Turtle	*Lissemys punctata*	24-07-2019	1 F	Cardiac shock, hepatitis
37	Sambar Deer	*Cervus unicolor*	25-07-2019	1F	Old age, multi organ failure
38	Sambar Deer	*Cervus unicolor*	27-07-2019	1F	Congestive Heart Failure
39	Indian Flapshell Turtle	*Lissemys punctata*	28-07-2019	1F	Putrified
40	Indian Flapshell Turtle	*Lissemys punctata*	05-08-2019	1M	Putrified
41	Spotted Deer	*Axis axis*	11-08-2019	1M	Cardiac shock
42	Indian Flapshell Turtle	*Lissemys punctata*	11-08-2019	1F	Hepatic failure
43	Emu	*Dromaius novaehollandiae*	15-08-2019	1M	Cardiac shock, septicemia
44	Parakeet Alexandrine	*Parasitical eupatria*	21-08-2019	1F	Old age, multi organ failure
45	Indian Flapshell Turtle	*Lissemys punctata*	27-08-2019	1M	visceral gout
46	Cockatiel White	*Nymphicus hollandicus*	01-09-2019	1M	Nasal block, cardiac shock
47	Indian Flapshell Turtle	*Lissemys punctata*	05-09-2019	1M	Putrified
48	Spotted Deer	*Axis axis*	02-10-2019	1M	Cardiac shock
49	Spotted Deer	*Axis axis*	05-10-2019	1M	Abandoned by mother, Cardiac shock
50	Spotted Deer	*Axis axis*	20-10-2019	1F	Maggot wound, septicemia
51	Emu	*Dromaius novaehollandiae*	21-10-2019	1M	septicemia
52	Spotted Deer	*Axis axis*	29-10-2019	1F	Cardiac shock
53	Sambar Deer	*Cervus unicolor*	06-11-2019	1F	Cardiac shock
54	Spotted Deer	*Axis axis*	15-11-2019	1F	Cardiac shock, anemia
55	Spotted Deer	*Axis axis*	12-12-2019	1F	Tetanus , septicemia
56	Spotted Deer	*Axis axis*	01-01-2020	1M	Cardiac shock
57	Indian Flapshell Turtle	*Lissemys punctata*	13-01-2020	1M	Multi organ failure
58	Spotted Deer	*Axis axis*	16-01-2020	1F	Cardiac shock
59	Spotted Deer	*Axis axis*	20-01-2020	1F	Respiratory failure
60	Indian Flapshell Turtle	*Lissemys punctata*	24-01-2020	1U	Putrified
61	Indian Flapshell Turtle	*Lissemys punctata*	26-01-2020	1M	prolapse of penis, putrified
62	Macaw Military	*Ara militaris*	02-02-2020	1U	Taxidermy
63	Swamp Deer	*Rucervus duvaucelli*	14-02-2020	1F	Infight injury, shock
64	Barking Deer	*Muntiacus Muntjack*	16-02-2020	1M (fawn)	Cardiac shock
65	Barking Deer	*Muntiacus Muntjack*	25-02-2020	1F	Respiratory failure
66	African Grey Parraot	*Psittacus erithacus*	20-03-2020	1M	Shock
67	Indian Flapshell Turtle	*Lissemys punctata*	26-03-2020	1U	Putrefied

28. Status of the Compliance with conditions stipulated by the Central Zoo Authority

Sr. No.	Norm under RZR 2009	Particulars of suggestions / recommendations	
Administrative and Staffing pattern			
	10 (2.2)	The VJB Udyan Zoo being medium Category zoo, it should have full time one Biologist as well as one Education Officer.	There is a post of full time Education Officer at this Zoo. The appointment of Biologist will be done within one month.
	10 (2.3)	The in-patient wards at the zoo lying unused should be made functional.	The in-patient wards at the zoo are used for isolation and treatment of sick and injured animals or rescued animals etc. All in -patient wards are occupied and the facility is functional.
	10 (3.7 & 3.8)	The Zoo should not accept any rescued animals unless prior approvals are obtained from Chief Wildlife Warden of the state and the Central Zoo Authority	Prior approval of PCCF, Nagpur and CZA is always taken before adding any rescued animal in the zoo inventory periodically.
.**Animal housing, display of animals and animal enclosures**			
	10 (4.2)	The zoo operator should ensure that all animal exhibits at the zoo should strictly meet the standards and norms as prescribed by the CZA	Complied.
	10 (4.2)	The zoo operator while taking up various development works at the premises of the zoo, should give priority to the animals which are housed in sub-standard housing,	While taking up the development works, priority has been given to the animals which are already housed in the zoo, by constructing new enclosures for Spotted deer, Jackal, Sambar deer as per CZA norms and guidelines. Photos attached for ready
	10 (4.6)	The enrichment provided at the Penguin exhibit should have first got tested in the off-exhibit area and artifacts used for enrichment should be natural. The plastic	Enrichment material made of plastic is removed from the Penguin Exhibit area. Cotton ropes and natural wood, bamboos is used for enrichment for macaques enclosure.

	10 (4.7)	The proposed Black buck enclosure next to service road to kitchen and quarantine area should be provided with adequate screening	The feed house of the black buck enclosure is covered with green cloth as screening. Bamboo Plantation is being done around the periphery of the exhibit which will act as a screen.
	10 (4.10)	The zoo has proposed interpretation and auditorium facility for conducting various education awareness programmes at the zoo. However, it has not been made functional. The zoo is advised to make it functional at an early date.	The Auditorium in the Interpretation Building has a seating capacity for 205 visitors and the same is now operational. Various educational programmes like event days, seminars, etc. are being conducted regularly.
30. **Upkeep and healthcare of animals**			
	10 (5.2)	Dry ration stored for feeding various animals should be checked for its quality. The zoo operator should ensure that no animal at the zoo should be under-nourished.	Curator (Zoo) and Veterinary Officer of Zoo have a regular check on dry ration storage and the quality is regularly checked. At the new Zoo kitchen complex there are separate sections for dry ration (2 nos.), Veg and Non-veg preparation area, etc.
	10 (5.5)	Plastic waste lying in the zoo at various places should be disposed in hygienic manner.	A house keeping agency is appointed for cleanliness within the Zoo premises and are collecting the plastic and other waste for disposal or for recycling. The entire Zoo premises is declared as plastic free Zone.
	10 (5.10)	The zoo should maintain the individual Animal History Cards, Treatment Cards for all Schedule I & II animals housed at the zoo, in the format as of prescribed by the CZA.	Complied.
• **Veterinary and infrastructure facilities**			

	10 (6.1)	The veterinary unit at the zoo should be made functional with all basic diagnostic facilities, comprehensive range of drugs, operation theatre and in-patient wards.	The veterinary hospital building has different sections like Isolation wards, Treatment room, Operation Theatre, Recovery room, Lab, Medicine storage room, Incubator Room, Conference area and Dortor's cabins. The Veterinary Hospital is equipped with various instruments like Hydrolic Operation Table, Surgical Light, Gas Anaesthesia machine, Portable X-ray machine, Microscope, Electric Cautery machine, ECG machine, Muliparameter, Blow Pipe, Jabstick, Infra red Lamp, Portable SPo2 monitor, Ophthalmoscope, Otoscope, etc. The entire Veterinary unit is fully functional.
6. **Post-mortem and disposal of carcasses of animals**			
	10 (7.1, 2 & 3)	Every post mortem at the zoo should contain the signature of the Veterinary Officer	Complied.
	10 (7.5)	The zoo should have a full time Lab Assistant or Compounder to assist the Veterinary Officer	The post of compounder is currently filled and the compounder assists the Veterinary Officer. The post of Lab Assitant is sanctioned by the MCGM administration and the qualifications required for the post are in the finalization process. The Post will be filled within the next 6 months.
6. Visitors facilities			
	10 (12.1)	The zoo provide Wheel-chair placed at the appropriate place for physically challenged personnel visiting the zoo.	A wheelchair is kept at the ticket counter at the main entrance for visitors in need or for any emergency. All entry and exits of the animal exhibits are designed from the point of view of convenience for the physically challenged visitors.
	10 (12.3)	The zoo should have a first-aid kit for the visitors	A first Aid box is kept at the Ticket counter, Director Office and the Security Office.
7. Maintenance of records and submission of inventory			

	11 (1)	The zoo should maintain the record of the birds, acquisitions, deaths and disposals of animals of each species in its collection in the manner and in the form of as prescribed by the CZA	Complied.
Non - Statutory			
1		The zoo should have independent website of the zoo for the use of its visitors, may also have online booking system for zoo entrance tickets.	The work of website with online booking facility is in process and will be complied within three months.
2		There are vacant spaces lying outside the penguin exhibit, may be utilised for interpretation and display of graphics on animals	A theme based interpretation area for public is being proposed in the vacant space lying outside the penguin exhibit and will be ready in the next six months.
3		The keepers should be provided with the uniform so that they can be identified by the visitors in case of any help, they may need or during any emergency situation.	Currently the all the zoo field staff is provided with the MCGM approved Khaki colored uniform. However a new uniform according to their work profile will be created with the logo of the zoo and will be complied in the next 6 months.

29. List of free living wild animals within zoo premises

Mammals:

1. Mongoose

2. Fruit Bats

3. Three striped Palm Squirrel

Birds:

1. Common House Crow

2. Jungle Crow

3. Rose-ringed Parakeet

4. Alexandrine Parakeet

5. Plum Headed Parakeet

6. Indian Grey Hornbill

7. Black Kite

8. House Sparrow

9. Common Mynah

10. Eurasian Cuckoo

11. White-throated Kingfisher

12. Purple-rumped Sunbird

13. Cattle Egret

14. Grey Heron

15. Pond Heron

16. Night Heron

17. Copper-smith Barbet

18. White-breasted Water-hen

19. Ashy Drongo

20. Golden Oriole

21. Tailor Bird

22. White-browed Fantail

23. Spotted Owlet

24. Rock Pigeon

25. Indian Cormorant

26. Crow Pheasant

27. Magpie Robin

28. Red-vented Bulbul

29. Red- whiskered Bulbul

30. Barn owl

31. Paradise Flycatcher

Reptiles:

1. Checkered Keelback

2. Common Rat Snake

3. Skinks

4. Geckos

5. Garden Lizards

6. Worm Snake

7. Wolf snake