Need of Implementing Best Practices in Documenting Natural History Collection

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Introduction

- The primary aims of museum documentation system include aiding the control and use of collections and ensuring the preservation of information about the cultural and natural heritage[4].
- Unfortunately in India not much attention has been given to the proper documentation of Natural History Collection even if given then not up to the marks for its maintenance or revival of documentation.

- Presently in India there is a little scope of further expansion of natural history collection because of different constitutional laws regarding wild life conservation i.e.
  - Wild Bird Protection Act (1887),
  - Indian Forest Act (1927),
  - Prevention to Cruelty to Animals Act (1960),
  - Wild life Protection Act (1972),
  - CITES (1976),
  - Forest Conservation Act (1981).

- **Because of that there are only few examples of specimens acquisition in museums as results of collaboration of museums with Zoo, Nature reserves and biospheres** from where the deceased animals were acquired which followed by its preservation in museum as specimen for the purpose of display, education and research.

- **But since last few decades this practice had also been discontinued** which left no scope of further expansion.

- **Therefore there is need of implementing best practices in documenting natural history collection in order to enhance its scientific value** that will lead to display improvisation, fructify to education and beneficial for future researches as well.

Documentation: an integral aspect of Museum

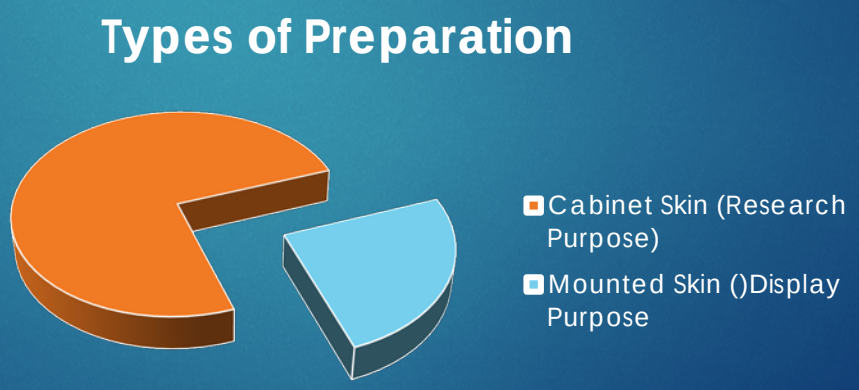
- Every institution holding collection should primarily have manual documentation system in the form of General accession register, Catalogue cards, Sectional registers, Identification label including information on paper.

- **Today most common practice of museums worldwide is to manage their information of collection through databases** that are more efficient in storing specimen data as well as their digital images.

- And through worldwide web all these information can be easily retrieved by the academician, scientists, scholars as well as general public by following museum's websites.

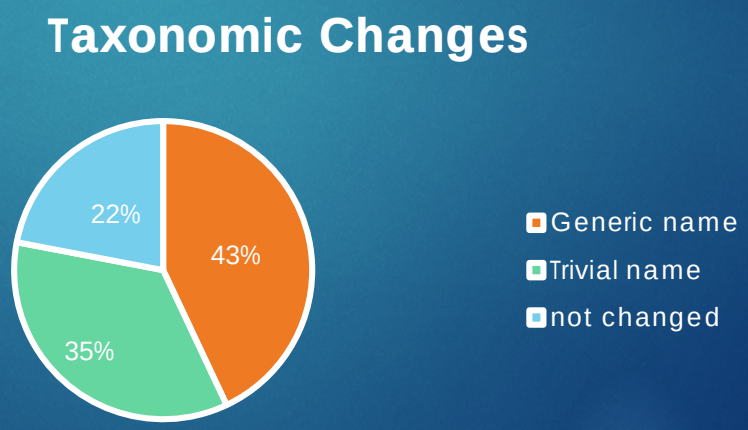
- While studying documentation of avian collection in State Museum Lucknow, we came across the inadequacies of documentation system adopted.
- Instead of proper and complete documentation only catalogue cards were prepared in 1964 and it was not updated till 2011 even sectional register was not available.
- Thus during the Study, more than 4000 avain specimens were redocumented, efforts have been made to collect maximum information.

- The study revealed that avian collection of State Museum Lucknow was mainly preserved for study purpose to conduct researches as collection of cabinet skin (study skin) is much larger than that of mounted skin because the ratio of cabinet skin and mounted skin is about 75:25.



- **However this research was the first research conducted on this collection**. As mentioned 75% of avian collection of museum were meant for study purpose thus in order to enhance the scientific value of this collection, preservation of information holding by specimen and updating was found to be very important.

- **During the study taxonomic classification of specimens has been updated**. Today scientific classification is undergoing a big change. ‘Lumping’ and ‘splitting’ are occurring because scientists have better methods of research today and examine birds at the molecular level.
- **As a result, about 43% Generic, 35% trivial names of bird specimens found to be changed in due course of time.**



- Due to lack of knowledge and absence of marking on specimens about 19% of collection found to be misplaced or incorrectly identified. Even a specimen that is critically endangered or may have extinct in wild found with wrong identification in the collection.

- Actual condition of individual specimen has also been examined and recorded.

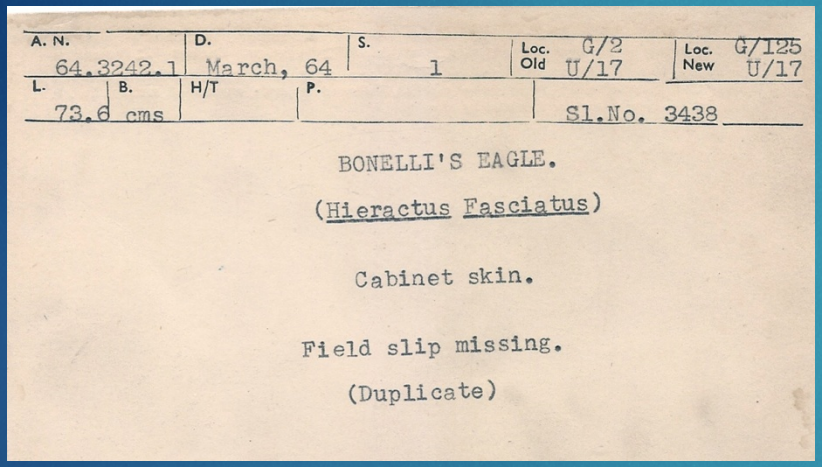
- **The status of every species in accordance with the IUCN Red List of threatened species has documented**. As a result, 08 critically endangered, 42 endangered, 10 near threatened and 20 vulnerable species in the collection have been reported.

- But these numbers may rise in future as it is estimated by IUCN that one in eight birds face a high risk of extinction in the near future and India is among the countries with the most threatened birds.

S. No	Acc. No.	Sl. No.	GRIMETTE, INSKIPP, INSKIPP (2011)		STATE MUSEUM LUCKNOW DOCUMENTATION (1964)	
			COMMON NAME	SCIENTIFIC NAME	COMMON NAME	SCIENTIFIC NAME
1	64.3.1	75	Hoopoe/hudhud	*Upupa epops*	Hoopoe/hudhud	*Upupa epops*
2	64.4.1	76	Hoopoe/hudhud	*Upupa epops*	Hoopoe/hudhud	*Upupa epops*
3	64.5.1	77	Hoopoe/hudhud	*Upupa epops*	Hoopoe/hudhud	*Upupa epops*
4	64.6.1	78	Hoopoe/hudhud	*Upupa epops*	Hoopoe/hudhud	*Upupa epops*
5	64.7.1	79	Hoopoe/hudhud	*Upupa epops*	Hoopoe/hudhud	*Upupa epops*
6	64.8.1	80	Hoopoe/hudhud	*Upupa epops*	Hoopoe/hudhud	*Upupa epops*
7	64.9.1	81	House swift	*Apus nipalensis*	House swift/batasi	*Micropus affinis*
8	64.10.1	82	House swift	*Apus nipalensis*	House swift/batasi	*Micropus affinis*
9	64.11.1	83	House swift	*Apus nipalensis*	House swift/batasi	*Micropus affinis*
10	64.					
11	64.					
12	64.					
13	64.					
14	64.					
15	64.					
16	64.					
17	64.					
18	64.					
19	64.					
20	64.					
21	64.					
22	64.					
23	64.					
24	64					

S. No	Sl. No.	COMMON NAME (2011)	SEX	PROVENANCE	COLLECTOR'S NAME	DATE OF COLLECTION	CONDITION	C.S/M.S	REMARKS
1	75	Hoopoe/hudhud	♀	Lucknow	MC	05-12-1888	Good	C.S	-
2	76	Hoopoe/hudhud	-	Lucknow	Geo.Reid	-	Bad	C.S	One leg missing other broken & tail damaged
3	77	Hoopoe/hudhud	♂	Pethoragarh	MC	26-2-1886	Bad	C.S	One leg missing, head broken from neck.
4	78	Hoopoe/hudhud	♂	Kumaun	MC	17-3-1887	Good	C.S	-
5	79	Hoopoe/hudhud	♂	-	Geo.Reid	11-12-1877	Good	C.S	-
6	80	Hoopoe/hudhud	♂	-	MC	28-02-1886	Bad	C.S	Neck broken
7	81	House swift/batasi	-	-	-	-	Bad	C.S	One leg missing
8	82	House swift/batasi	♂	-	Geo.Reid	7-10-1878	Good	C.S	-
9	83	House swift/batasi	♂	-	MC	19-8-1887	Good	C.S	-
10	84	House swift/batasi	♂	-	MC	19-8-1887	Good	C.S	-
11	85	House swift/batasi	♂	-	D.G.Pitcher	-	Good	C.S	-
12	86	House swift/batasi	♀	Lucknow	Geo.Reid	05-09-1878	Good	C.S	-
13	87	Asian palm swift	♀	-	-	18-06-1900	Good	C.S	-
14	88	Common hawk cuckoo	-	Patiala	W.Jesse	01-09-1898	Good	C.S	-
15	89	Common hawk cuckoo	-	-	-	-	Good	C.S	-
16	90	Common hawk cuckoo	♀	Lucknow	MC	13-05-1887	Good	C.S	-
17	91	Common hawk cuckoo	♀	Solon, Punjab	W.Jesse	09-09-1898	Good	C.S	-
18	92	Common hawk cuckoo	♀	Kheri, Oudh	MC	07-05-1887	Good	C.S	-
19	93	Common hawk cuckoo	♀	Lucknow	Geo.Reid	10-10-1878	Good	C.S	-
20	94	Common hawk cuckoo	-	-	-	-	Good	C.S	-

After updating and gathering information on excel sheets new accession cards with improved format were prepared.



A. N.	D.	S.	Loc. Old	Loc. New
64.3242.1	March, 64	1	G/2 U/17	G/125 U/17

L.	B.	H/T	P.
73.6	cms		Sl.No. 3438

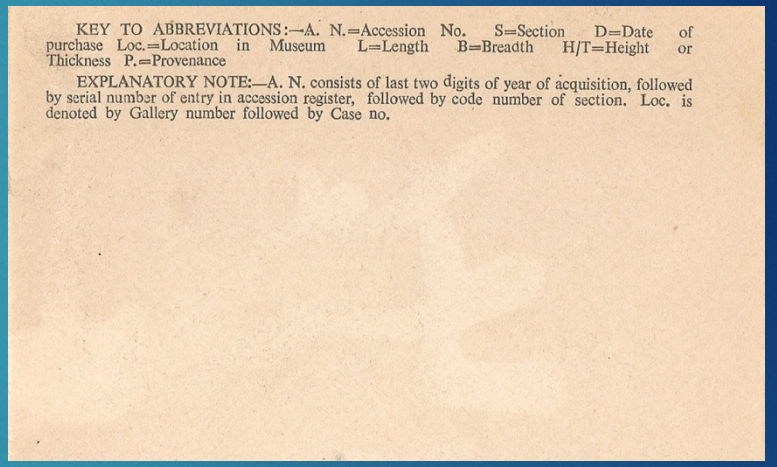
BONELLI'S EAGLE.

(Hieractus Fasciatus)

Cabinet skin.

Field slip missing.

(Duplicate)



KEY TO ABBREVIATIONS:—A. N.=Accession No. S=Section D=Date of purchase Loc.=Location in Museum L=Length B=Breadth H/T=Height or Thickness P.=Provenance

EXPLANATORY NOTE:—A. N. consists of last two digits of year of acquisition, followed by serial number of entry in accession register, followed by code number of section. Loc. is denoted by Gallery number followed by Case no.

Fig.1. Front and back view of Accession card of State Museum Lucknow prepared in 1964

STATE MUSEUM LUCKNOW

BIRD

ACCESSION CARD (NATURAL HISTORY SECTION)

OBJECT/SPECIMEN *Phylloscopus collybita* (Blyth) BROWN LEAF WARBLER/CHIFFCHAFFF - C.S

64.215.1

A.N.	SL. NO.	DOD	SECTION	PROVENANCE	NEW LOC.
64.215.1	296	March ;64	1	Lucknow	

LENGTH	BREATH	H/T	MODE OF ACQUISITION	OLD LOC.
8.5cm	6.5cm			G125 U/12,D..3

CONDITION : Badly damaged, one leg missing other broken, tail missing

DATE OF ACQUISITION

PHYLUM : AVES

FAMILY Muscicapidae

SEX : Male

DESCRIPTION Size about that of sparrow.

- No wing-bar. Above, pale olive brown, a short, whitish supercilium.
- Below, dull whitish washed with buff on breast and flanks.
- Sexes alike.

DOV- Nov;2010

SIGN.

KEY TO ABBREVIATIONS

- A.N. - ACCESSION NUMBER
- SL.NO. - SURPLUS NUMBER
- LOC. - LOCATION
- H/T - HEIGHT / THICKNES
- C.S. - CABINET SKIN
- M.S - MOUNTED SPECIMEN

DOD - DATE OF DOCUMENTATION

DOV - DATE OF VERIFICATION

Ventral view, showing completely broken leg

Fig. 2. Front & back view of New accession cards with improved format Prepared during the study.

- Collection was also kept properly in accordance with serial number which was placed randomly before this study. A good management of collection cannot be possible without adopting a workable system of documentation in museum.

Before documentation

After documentation

Some best practices of documenting Natural History Collection:

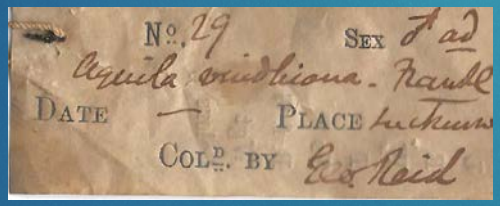
- Scientific and vernacular name should be updated according to the new classification. Where most of the museums have not updated such information.
- A separate sectional register should be prepared. But many of the museums are not maintaining sectional register.
- Accession or index cards should also be prepared again with updated information.

- Location of specimen in museum should be updated as it has been changed but still old location was mentioned on Accession card.

- As a rule, while writing scientific names genus should always be written with capital initial and species with small initial, but in the accession cards **scientific names were written completely with capital letters like** SAXICOLA CAPRATA **instead of *Saxicola caprata.***

- All important information from original field tag should be transferred to accession cards and sectional register.

- **It is also important that original labels, in whatever state are preserved** apart from explicit information, such as dates and field book numbers such labels may contain valuable handwriting clues which the experienced researcher can interpret[1].



Original Field tag of collection digitized to preserve information

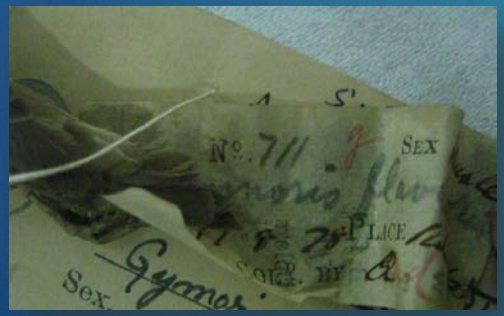
- **Many specimens in the section got misplaced mainly due to the reason when specimen(s) brought back to the reserve section after study or display not re locate at its original place.**

- Therefore while moving one specimen from one location to another one should always follow proper documentation procedure such as **movement record must be maintained.**

- All specimens should be marked with serial number/accession number on the feet/ toe while original tags should always remain attached to study skins in order to identify them.

- Along with improving manual documentation system attention should be paid towards development of databases that are more efficient.

- Records associated with specimens should always be stored in an area which is secured from intense light, temperature, humidity, fire, pollution and pest infestation in order to ensure its preservation.



- **The digitisation and offsite storage of digital information is very important** in order to protect data from natural disasters, accidental problems like earth quake, tsunami, flood and fire.

- As recently reported in case of National Museum of Natural History, New Delhi where the fire accident caused huge data loss.

Conclusion

Collection without proper documentation may lost its scientific worth completely and difficult to manage.

Implementation of best practices provide preservation of original information about specimen that contribute to future researches because collection based research cannot be accomplished without accessing original information of collection.

Thank you…