



## Evaluation of the extent of wetland birds in District Kaithal, Haryana, India

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**Abstract:** Kaithal District is comprised of 2317 Km<sup>2</sup> Sq. Km area having six blocks Viz.:Kaithal, Kalayat, Pundri, Rajound, Ghula and Siwan located at a distance of 150 Kms from New Delhi toward North West. Its geographical position lies between 29° 48' 0 N latitude and between 76° 22' 60 E longitude. The present studies were carried between 2005-2008 with the help of Zenith Camera and telelens. In all, 63 species of Wetland birds belonging to 10 Orders, 38 genera and 16 families were observed in various village ponds in Kaithal District. Out of 63 species of wetland birds, 31 are winter migratory, 9 local migratory, 3 summers migratory and 20 species are resident birds. Considering IUCN categories, Black Ibis (*Pseudibis papillosa*) which belongs to Biome Restricted Species (BRS) was observed in three blocks viz. Kaithal, Pundri and Rajound of Kaithal district. In addition, Spotted Greenshank (*Tringa guttifer*) which has been placed in endangered category of IUCN was observed as single individual. But Black Ibis (*Pseudibis papillosa*) was observed in a group of three to seven. Northern Shoveller (*Anas clypeata*), which is reportedly coming from Central Russia and Caspian Siberia has been observed in very large groups of 200-250 and virtually spotted in each and every pond in Northern Haryana. Similarly, Northern Pintail (*Anas acuta*), Common Teal (*Anas crecca*), Common Pochard (*Aythya ferina*), Spot-billed Duck (*Anas poecilorhyncha*), Lesser-whistling Teal (*Dendrocygna javanica*) were also seen in relatively large groups. Common Pochard (*Aythya ferina*) is always observed in pure groups floating in the centre of relatively big ponds. In contrast, Gadwall (*Anas strepera*), Northern Shoveller (*Anas clypeata*), Northern Pintail (*Anas acuta*) and Common Teal (*Anas crecca*), share close proximity with each other in water and are found in mixed groups. Northern Shoveller (*Anas clypeata*), Bar-headed Goose (*Anser indicus*) and Northern Pintail (*Anas acuta*) stay between Octobers to April. Mallard (*Anas platyrhynchos*) stays in winter for shortest period between December and January. Maximum wetland birds observed in Kaithal District belong to Order Charadriiformes and to family Anatidae of Order Anseriformes. Spotted Greenshank (*Tringa guttifer*) is the peculiar to Pundri block only, in Kaithal District.

**Keywords:** Migratory Birds, Wetland Birds, Kaithal District, Rural Ponds, Haryana

### INTRODUCTION

Birds do migrate (Aitkin, 1891; Dewar, 1908; Stresemann, 1927-34; Rowan, 1929; Prater, 1931; Bodenslein and Schuz, 1944; Hartley, 1949; Lincoln, 1950; Donald, 1952; Abdulali, 1955; Lasiewski, 1962; Bisbet, 1963; Collman and Croxall, 1967; Feeny *et al.*, 1968; Pennycuick, 1969; Lucca, 1969; Bailey, 1971; McClure, 1974; Ali, 1996; Driscoll and Ueta, 2002; Javed *et al.*, 2003 and Bairlein, 2003). Migratory birds come to India as reported by Ali and Ripley, 1968, Birdlife International, 2001, and Kumar *et al.*, 2005. In so far as Haryana is concerned, Wetland birds have been studied at Kurukshetra University (Gupta and Bajaj, 1997, 1998, 1999, 2000, and Gupta *et al.*, 2009). In this paper, attention has been focused on wetland birds of Kaithal District which so far has not been a part of studies by the earlier worker.

It is pertinent to mention here that birds like Arctic Tern, Siberian Crane, Demoiselle Crane, Northern Shoveller, Bar-headed Goose and Eastern Curlews are famous examples in the parleys of the phenomenon of bird migration. Also, Bird like Eastern Golden Plover, Snipe

and Bar-tailed Godwit are known for their extremely astonishing long distance non-stop migratory flight. Bird migration is a function of defined and undefined causative functions. For instance, birds migrate to wintering place to avoid extremes of harsh winter and shortage of food in their breeding grounds (Kumar *et al.*, 2005). In India, winter migratory birds come from Srinagar to Trivandum and Ahmedabad to Imphal (Ram, 1978; Ali and Ripley, 1968; Krishna Raju, 1978; Khacher, 1986; Pandey, 1989; Sharma and Pandey, 1989; Mohapatra and Rao, 1994; Gandhi and Singh, 1995; Singh, 2000; Tak *et al.*, 2001; Kumar and Sivaperuman, 2005 and Kumar *et al.*, 2005). Similarly; birds do come to Haryana state which is lodged in neighborhood of New Delhi (Gupta and Kumar, 2009 and Gupta *et al.*, 2009). However, Kaithal District in reference of migratory birds has never been a part of other workers attention and hence the present work.

### MATERIALS AND METHODS

In the present studies, the observations were made in

**Table 1.** Checklist of wetland birds in village ponds of Kaithal District in Haryana.

S.N	Common Name	Scientific Name	Res.	*GHU	KTH	KAL	PUN	RAJ	SIW
<b>Status</b>									
<b>(I) ORDER-PODICIPEDIFORMES</b>			<b>(i) FAMILY-PODICIPEDIDAE</b>						
1	Little Grebe	<i>Tachybaptus rufficollis</i> (Pallas, 1764)	R	v	v	v	v	v	v
<b>(II) ORDER-PELECANIFORMES</b>			<b>(i) FAMILY-PHALACROCORACIDAE</b>						
2	Little Cormorant	<i>Phalacrocorax niger</i> (Vieillot, 1817)	R	v	v	v	v	v	v
3	Indian Shag	<i>Phalacrocorax fuscicollis</i> (Stephens, 1826)	LM	v	v	v	v	v	v
4	Great Cormorant	<i>Phalacrocorax carbo</i> (Linnaeus, 1758)	LM	v	v	v	v	v	v
<b>(III) ORDER-CICONIIFORMES</b>			<b>(i) FAMILY-ARDEIDAE</b>						
5	Little Egret	<i>Egretta garzetta</i> (Linnaeus, 1766)	LM	v	v	v	v	v	v
6	Grey Heron	<i>Ardea cinerea</i> (Linnaeus, 1758)	WM	v	v	v	v	v	v
7	Purple Heron	<i>Ardea purpurea</i> (Linnaeus, 1766)	LM	v	v	v	v	v	v
8	Large Egret	<i>Casmerodius albus</i> (Linnaeus 1758)	LM	v	v	v	v	v	v
9	Median Egret	<i>Mesophoyx intermedia</i> (Wagler 1829)	LM	v	v	v	v	v	v
10	Cattle Egret	<i>Bubulcus ibis</i> (Linnaeus, 1758)	R	v	v	v	v	v	v
11	Indian Pond Heron	<i>Ardeola grayii</i> (Sykes, 1832)	R	v	v	v	v	v	v
12	Black-crowned Night Heron	<i>Nycticorax nycticorax</i> (Linnaeus, 1758)	R	v	v	v	v	v	v
<b>(iii) FAMILY-THRESKIORNITHIDAE</b>									
13	Glossy Ibis	<i>Plegadis falcinellus</i> (Linnaeus, 1766)	LM	X	X	X	v	X	X
14	Black Ibis	<i>Pseudibis papillosa</i> (Temminck, 1824)	R	X	v	X	v	v	X
<b>(IV) ORDER-ANSERIFORMES</b>			<b>(i) FAMILY-ANATIDAE</b>						
15	Large Whistling- Duck	<i>Dendrocygna bicolor</i> (Vieillot, 1816)	WM	v	v	v	v	v	v
16	Greylag Goose	<i>Anser anser</i> (Linnaeus, 1758)	WM	v	v	v	v	v	v

Table 1. Continued...

17	Lesser Whistling duck	<i>Dendrocygna javanica</i> (Horsfield, 1821)	SM	v	v	v	v	v	v
18	Bar-headed Goose	<i>Anser indicus</i> (Latham, 1790)	WM	v	v	v	v	v	v
19	Comb Duck	<i>Sarkidiornis melanotos</i> (Pennant, 1769)	SM	v	v	v	v	v	v
20	Gadwall	<i>Anas strepera</i> (Linnaeus, 1758)	WM	v	v	v	v	v	v
21	Eurasian Wigeon	<i>Anas penelope</i> (Linnaeus, 1758)	WM	X	v	v	v	v	X
22	Mallard	<i>Anas platyrhynchos</i> (Linnaeus, 1758)	WM	X	X	v	v	v	X
23	Spot-billed Duck	<i>Anas poecilorhyncha</i> (J.R. Forester, 1781)	WM	v	v	v	v	v	v
24	Northern Shoveller	<i>Anas Clypeata</i> (Linnaeus, 1758)	WM	v	v	v	v	v	v
25	Northern Pintail	<i>Anas acuta</i> (Linnaeus, 1758)	WM	v	v	v	v	v	v
26	Garganey	<i>Anas querquedula</i> (Linnaeus, 1758)	WM	X	v	v	v	v	X
27	Common Teal	<i>Anas Crecca</i> (Linnaeus, 1758)	WM	v	v	v	v	v	v
28	Common Pochard	<i>Aythya ferina</i> (Linnaeus, 1758)	WM	v	v	v	v	v	v
<b>(V) ORDER-GRUIFORMES</b>			<b>(i) FAMILY- RALLIDAE</b>						
29	White-breasted Waterhen	<i>Amaurornis phoenicurus</i> (Pennant, 1769)	R	v	v	v	v	v	v
30	Purple Moorhen	<i>Porphyrio porphyrio</i> (Linnaeus, 1758)	R	v	v	v	v	v	v
31	Common Moorhen	<i>Gallinula chloropus</i> (Linnaeus, 1758)	LM	v	v	v	v	v	v
32	Common Coot	<i>Fulica atra</i> (Linnaeus, 1758)	WM	v	v	v	v	v	v
<b>(VI) ORDER-CHARADRIIFORMES</b>			<b>(i) FAMILY- JACANIDAE</b>						
33	Pheasant-tailed Jacana	<i>Hydrophasianus chirurgus</i> (Scopoli, 1786)	SM	v	v	v	v	v	v

**Table 1.** Continued...

34	Bronze-winged Jacana	<i>Metopidius indica</i> (Latham, 1790)	R	X	v	X	v	v	v
<b>(ii) FAMILY- CHARADRIIDAE</b>									
35	Kentish Plover	<i>Charadrius alexandrinus</i> (Linnaeus, 1758)	WM	v	v	X	v	v	v
36	Yellow-wattled Lapwing	<i>Vanellus malabaricus</i> (Boddaert, 1783)	R	v	v	v	v	v	v
37	River Lapwing	<i>Vanellus duvaucelii</i> (Lesson, 1826)	R	v	v	v	v	v	v
38	Red-wattled Lapwing	<i>Vanellus indicus</i> (Boddaert, 1783)	R	v	v	v	v	v	v
39	White-tailed Lapwing	<i>Vanellus leucurus</i> (Lichtenstein, 1823)	WM	v	v	v	v	v	v
<b>(iii) FAMILY- SCOLOPACIDAE</b>									
40	Black-tailed Godwit	<i>Limosa limosa</i> (Linnaeus, 1758)	WM	X	v	v	v	X	v
41	Spotted Redshank	<i>Tringa erythropus</i> (Pallas, 1764)	WM	X	X	X	v	v	v
42	Common Redshank	<i>Tringa totanus</i> (Linnaeus, 1758)	WM	v	v	v	v	v	v
43	Common Sandpiper	<i>Actitis hypoleucos</i> (Linnaeus, 1758)	WM	v	v	v	v	v	v
44	Temminck's Stint	<i>Calidris temminckii</i> (Leisler, 1812)	WM	v	v	X	X	v	X
45	Ruff	<i>Philomachus pugnax</i> (Linnaeus, 1758)	WM	v	v	v	v	v	v
46	Common Greenshank	<i>Tringa nebularia</i> (Gunner, 1767)	WM	v	v	v	v	v	v
47	Spotted Greenshank	<i>Tringa guttifer</i> (Nordmann, 1835)	WM	X	X	X	v	X	X
48	Marsh Sandpiper	<i>Tringa stagnatilis</i> (Bechstein, 1803)	WM	v	v	v	v	v	v
49	Wood Sandpiper	<i>Tringa glareola</i> (Linnaeus, 1758)	WM	v	v	v	v	v	v
<b>(iv) FAMILY- RECURVIROSTRIDAE</b>									
50	Black-winged Stilt	<i>Himantopus himantopus</i> (Linnaeus, 1758)	R	v	v	v	v	v	v
51	Pied Avocet	<i>Recurvirostra avosetta</i> (Linnaeus, 1758)	WM	v	v	v	v	v	v

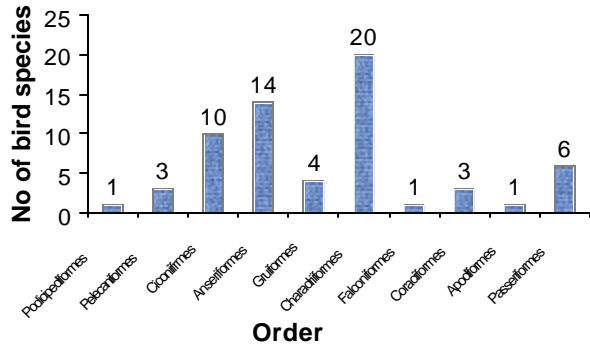
**Table 1.** Continued...

52	River Tern	<i>Sterna aurantia</i> (J.E.Gray, 1831)	LM	v	v	v	v	v	v
<b>(VII) ORDER- FALCONIFORMES</b>			<b>(i) FAMILY- ACCIPITRIDAE</b>						
53	Brahminy Kite	<i>Haliastur Indus</i> (Boddaert,1783)	R	v	v	v	v	v	v
<b>(VIII) - CORACIIFORMES</b>			<b>(i) FAMILY- ALCEDINIDAE</b>						
54	Lesser Pied Kingfisher	<i>Ceryle rudis</i> (Linnaeus, 1758)	R	v	v	v	v	v	v
55	White-breasted Kingfisher	<i>Halcyon smyrnensis</i> (Linnaeus,1758)	R	v	v	v	v	v	v
			<b>(ii) FAMILY- MEROPIDAE</b>						
56	Blue-cheeked Bee-eater	<i>Merops persicus</i> (Pallas, 1773)	R	v	v	v	v	v	v
<b>(IX) ORDER- APODIFORMES</b>			<b>(i) FAMILY - APODIDAE</b>						
57	House Swift	<i>Apus affinis</i> (J.E.Gray)	R	v	v	v	v	v	v
<b>(X) ORDER- PASSERIFORMES</b>			<b>(i) FAMILY - HIRUNDINIDAE</b>						
58	Wire-tailed Swallow	<i>Hirundo smithii</i> (Leach,1818)	R	v	v	v	v	v	v
59	Common Swallow	<i>Hirundo rustica</i> (Linnaeus, 1758)	R	v	v	v	v	v	v
			<b>(ii) FAMILY- MOTACILLIDAE</b>						
60	White Wagtail	<i>Motacilla alba</i> (Linnaeus, 1758)	WM	v	v	v	v	v	v
61	Large Pied Wagtail	<i>Motacilla maderaspatensis</i> (Gmelin, 1789)	LM	v	v	v	v	v	v
62	Citrine Wagtail	<i>Motacilla citreola</i> (Pallas, 1776)	WM	X	v	v	v	v	v
63	Yellow Wagtail	<i>Motacilla flave</i> (Linnaeus, 1758)	WM	v	v	X	v	v	v

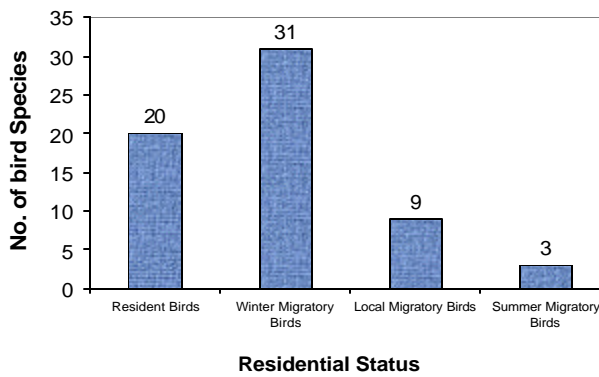
**\*Abbreviation :** GHU-Ghula; KTH- Kaithal;KAL- Kalayat; PUN-Pundri; RAJ-Rajound; SIW- Siwan; Res. Status- Residential Status, WM- Winter Migratory, LM- Local Migratory, SM- Summer Migratory and R- Resident

the selected rural village ponds of Kaithal District in Haryana. Out of 270 villages in District Kaithal, about 90 villages were visited atleast once during the study area. In these villages about 90 rural ponds were selected for survey of wetland birds, focusing attention on migratory birds. Visits were made so as to cover the entire period of sun-shine during any single visit. Evidences were collected with the help of Zenith Camera with Russian made telens. The various wetland birds seen during

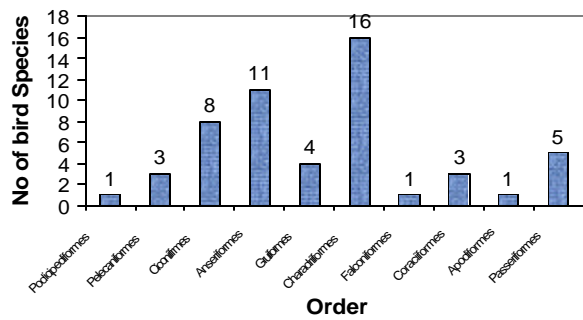
the study period were further segregated according to their residential status categories like: “Resident”; “Winter Migratory”; “Local Migratory” and “Summer Migratory” by following the technique developed by Kumar *et al*, 2005. Identification of birds observed during the study period was done with the help of literature, Ali, 1996; Ali and Ripley, 2001; Grewal *et al*, 2003; Grimmet *et al.*, 1998; Inskipp *et al*,1999;Alfred *et al*, 2001; Besten, 2004 and Kumar *et al.*, 2005; and consultation with experts



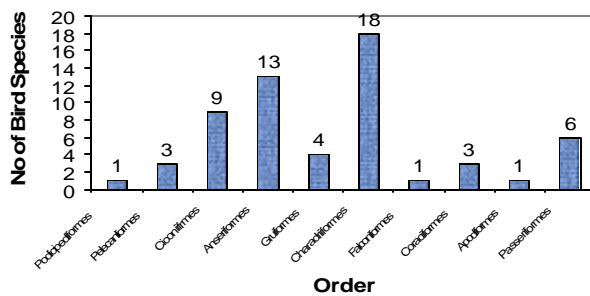
**Fig.1.** Depiction of incidence of wetland birds observed at village ponds in Kaithal District during 2005-08.



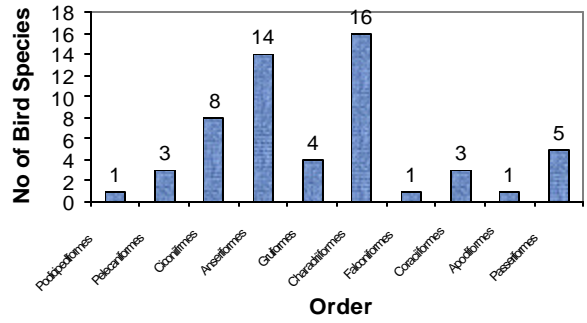
**Fig.2.** Showing the number of Resident, Winter Migratory, Local Migratory and Summer Migratory birds observed in Kaithal District during 2005-08.



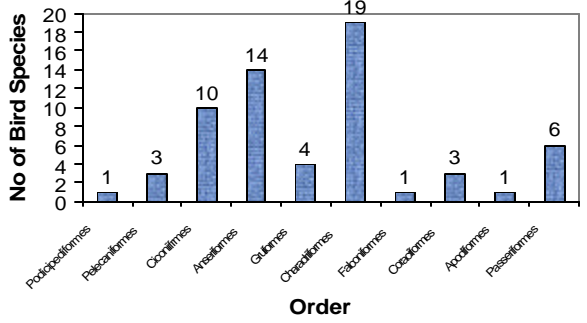
**Fig. 3**



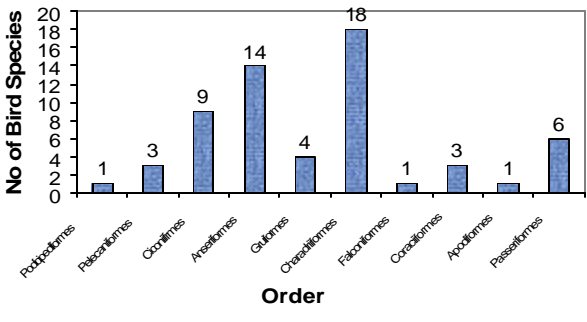
**Fig. 4**



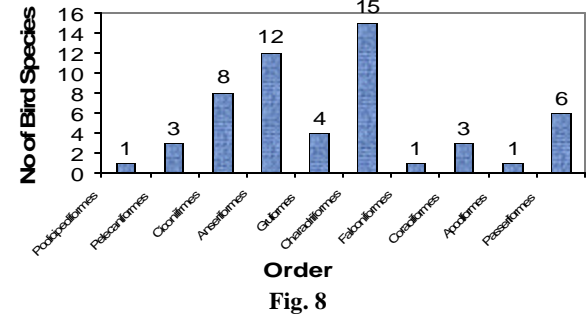
**Fig. 5**



**Fig. 6**



**Fig. 7**



**Fig. 8**

**Figs. 3-8.** Depiction of incidence of wetland birds observed at village ponds of Ghula, Kaithal, Kalayat, Pundri, Rajound and Siwan Blocks respectively during 2005-08.

**RESULTS AND DISCUSSION**

During the three years of study in Kaithal District in Haryana in respect of wetland birds available in rural ponds, it is evident from Table 1 that in all only 63 species could be recorded. Gupta *et al.* (2009) have reported 72

wetland birds from Karnal district in Haryana. Similarly, other worker like Pasha *et al.*, (2004) observed 262 species of birds in Pench Tiger Reserve, Madhya Pradesh. Out of these, 162 were residents, 70 winter visitors, 3 summer visitors, 25 local migrants and 2 were vagrant species. Rahmani (1991) reported 258 species of birds while working on Karera Bustard Sanctuary, Madhya Pradesh. Out of these 258 species, 86 were migrants.

Further, Khan (2005) reported a total of 198 species of birds from which 134 are resident and 64 were migrants from Sundarbans East Wildlife Sanctuary, Bangladesh. Also, Kumar and Sivaperuman (2005) observed a total of 149 species of birds belonging to 17 orders and 53 families from the National park. Out of these, 121 were resident and 28 migrants. Kalsi (1998) reported 161 species of birds, out of which, 112 were resident and 49 were migrant species from Kalesar Wildlife Sanctuary, Haryana. Further, these 63 species of wetland birds observed in village ponds of Kaithal district could be segregated into 10 orders and 16 families (Table 1).

It is evident from Fig. 1 that maximum wetland birds belong to Order Charadriiformes (20 species) followed by Anseriformes (14 species), Ciconiiformes (10 species) and Passeriformes (06 species). The least avian diversity is observed in case of Orders Falconiformes, Apodiformes and Podicipediformes (One species each). The incidence of wetland birds in Blockwise manner is depicted in Fig.3 (Guhla Block); Fig.4 (Kaithal Block); Fig.5 (Kalayat Block); Fig.6 (Pundri Block); Fig.7 (Rajound Block); Fig.8 (Siwan Block). The diversity of birds in these is more or less similar (Fig.3-8), thereby proving the similarity of wetland avifauna in Kaithal District. However, Pundri Block has shown Spotted Greenshank which is peculiar in having this species and was not observed in other blocks.

Considering any single family demonstrating highest diversity, it is family Anatidae of Order Anseriformes (14 species) followed by Scolopacidae (10 species) and Ardeidae (8 species). On the other hand, family Podicipedidae of Order Podicipediformes is represented by just one species (Little Grebe), as also, in case of Accipitridae i.e. Brahminy Kite.(Table.1)

Further as per Kumar *et al.*, 2005 categories like Resident birds, Winter Migratory Birds, Local Migratory Birds and Summer Migratory could be identified, maximum being Winter Migratory (31 Species) followed by Resident (20 species), local Migratory (9 species) and Summer Migratory (3 species) (Fig. 2)

In conclusion, 63 species of wetland birds could be spotted in Kaithal District in Haryana state during the three years of study (2005-08) in rural ponds precincts. Gupta *et al.* (2009) have reported 72 species of birds in a nearby District of Karnal during the same period of study proving thereby that almost same spectrum of wetland

birds is reflected in Karnal and Kaithal district in Haryana.

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