

BIRDS OF KOLE WETLANDS, THRISSUR, KERALA

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Abstract

Bird community of Kole wetlands in Thrissur District, Kerala State was studied during November 1998 to December 1999. The methodology followed was mainly observations using spotting scope. A total of 167 species of birds, belonging to 16 orders and 39 families were recorded from the area during the period. Among them, 53 species of birds were winter visitors. Highest number of birds was recorded in the month of January and the lowest was observed in June. Little Egret, Cattle Egret, Little Cormorant, Pond Heron, Median Egret and Whiskered Tern were the most abundant resident and local migrant species found in the Kole wetlands. The importance of this wetland area as the "stepping stone" for the trans-continental migrants is discussed.

Keywords

Birds, Kole wetland, conservation problems, inventory

Introduction

Wetlands are areas of marsh, ponds, swamps, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salty, including areas of marine water, the depth of which at low tide does not exceed six meters (Anon, 1971). Wetlands are extremely important areas throughout the world for wildlife protection, recreation, sediment control, flood prevention, educational and scientific uses. Wetlands play an important role in the socio-economic stability of local community activities such as fisheries (fresh and saltwater).

Waterbirds are an important component of most of the wetland ecosystems, as they occupy several trophic levels in the food web of wetland nutrient cycles. Waterbirds are broadly defined as "birds ecologically dependent on wetlands" and include

recognized groups popularly known as wildfowl, waterfowl, shore birds and waders. Among the wetlands in Kerala, Kole wetland in Thrissur District occupies an important position (Anon, 1996). According to Perennou (1990) out of the nine resident endangered waterfowl, four were seen in Kole wetlands. Jairaj and Kumar (1990) reported Eurasian Spoonbill (*Platalea leucorodia*) from Kole wetlands. Two short term surveys of one week duration employing volunteer bird watchers were conducted to list the birds of Kole wetlands during the winter months of 1992 and 1993 (Anon, 1992; 1993). Details of these surveys and earlier census data were compared and published by Nameer (1993). Ravindran (1993; 1999) reported the occurrence of Glossy Ibis (*Plegadis falcinellus*) and White-necked Stork (*Ciconia episcopus*) respectively from this area. Ravindran (1995) highlighted the importance of conserving wetland birds in the Kole wetlands in another publication. Santharam (1995) reported Plain Sand Martin (*Riparia paludicola*) from this area. Similarly, Jayson (2000) reported the occurrence of Black Stork (*Ciconia nigra*) and Sivaperuman and Jayson (in press, b) recorded the presence of Northern Shoveller (*Anas clypeata*) here. A rare incidence of Black-shouldered Kite (*Elanus caeruleus*) preying on Wood Sandpiper (*Tringa glareola*) was also recorded by Sivaperuman and Jayson (in press, a). The importance of conserving the Kole lands of Thrissur was also discussed by Jayson and Sivaperuman (1999).

Study area

Wetlands in Kerala come under Central Asian-Indian Flyway (Anon, 1996). Kole wetland is one such area with much importance. The name "Kole" refers to the peculiar type of cultivation carried out from December to May and this Malayalam word indicates bumper yield of high returns in case floods do not damage the crops (Johnkutty & Venugopal, 1993). A major portion of the area here is flat and it remains submerged for about six months in a year, during June to November. These lands were formerly shallow lagoons, which gradually got silted up. Two rivers mainly bring the floodwaters into the area, namely Kechery and Karuvannur, which finally empty into the Arabian Sea. The Kole wetlands cover an area of 11,000 ha. spread over Thrissur

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and Malappuram Districts, extending from the northern banks of Chalakudy River to the southern banks of Bharathapuzha River in the North. The area lies between 10°20' and 10°40' N latitudes and 75°58' and 76°11' E longitudes. The wetland is a low-lying tract, located 0.5 m. to 1 m. below mean sea level. This paper forms part of a major ecological study being undertaken by us to investigate the community parameters of birds, food and feeding and the damage caused by birds to paddy cultivation.

Methods

The method of total count was employed to census the bird population. In this method representative blocks were identified and the birds in the blocks were counted using a spotting scope (10x - 45x) or binocular (7 X 50). Birds were identified using physical features with the help of field guides and reference books (Ali, 1969; Woodcock, 1979; Ali & Ripley, 1983; Neelakantan *et al.*, 1993; Grimmett *et al.*, 1998; Daniels, 1998). Birds were identified up to species level and details like the number of birds and the habitat were also recorded. The census was conducted between 0700 hours to 1000 hours and on an average covered 15 days in a month.

Representative areas like Enamavu, Kanjany, Arimpur, Mulloorkayal, Adat, Alapatt and Pullu were censused in each month. Along with this other areas were also surveyed. The census was carried out during November 1998 to December 1999 and following assumptions were used to derive the abundance of each species (Nameer *et al.*, 2000).

A = Abundant (found in all suitable habitats and seen in all the habitats, every visit)

C = Common (found in all suitable habitats and seen in all the habitats, most of the visits)

U = Uncommon (seen in specific habitat on a few visits)

O = Occasional (seen in suitable habitat once or twice).

Status of species is classified into Resident (R), Local movement (LM) and Migrant (M). Winter visitors from Central Asian Countries are included in migrants, where as winter visitors from other parts of the Indian sub-continent is included in the category of local movement.

Results

A total of 167 species of birds, belonging to 16 orders and 39 families were recorded from the Kole wetlands (Table 1). Among them 81 species are wetland birds. During the study, 53 species of winter visitors were also recorded. Of these migratory birds, nine were ducks, 31 waders, three gulls and two terns. Kole wetland is an abode of many passerine species also. Highest number of birds was recorded during the month of January and lowest in June. Little Egret, Cattle Egret, Little Cormorant, Pond Heron, Median Egret and Whiskered Tern were the most abundant species in the Kole wetlands.

Among the species recorded, Spot-billed Pelican (*Pelecanus philippensis*) is a species included in the Red Data Book and

another species Rufous Babbler (*Turdoides subrufus*) is endemic to Western Ghats. Neelakantan, *et al.* (1993) reported 19 orders, 65 families and 475 species of birds as occurring in Kerala.

Conservation problems

Many factors, which threaten the Kole wetland ecosystem and in turn the bird population were identified during the study. Among them the prominent were poaching of birds, heavy use of pesticides, and unregulated fishing from the canals laid in Kole land to drain excess water. Pesticides and herbicides of 15 different brands were used in the paddy fields for the protection of paddy. Birds were hunted using shotgun and air gun and many such incidents were recorded. Another method used for killing birds was by anaesthetising them using the insecticide Furadan, which was fed to birds, by concealing it in small dead fish. Uncontrolled fishing depletes the food source of wetland birds. Small sized gill nets are used for fishing which results in the removal of even small sized fishes, indirectly affecting the availability of food for birds. As suggested by many workers in the earlier reports, if Kole wetlands are declared as a Ramsar site, birds will be protected more seriously.

Discussion and Conclusions

The number of species recorded from the Kole wetlands shows high species-richness, which is comparable to other wetlands in Kerala (Jayson & Easa, 2000). Among the species recorded, 53 were winter visitors. As this wetland is coming under 'Central Asian – Indian Flyway', protection of winter visitors need highest priority. As reported earlier from the Western Ghats, highest number of birds were recorded during the months of winter and there was a reduction in population size during the monsoon (Daniels, 1998). As Kole wetlands are serving as "stepping stone" for the trans-continental migrants, urgent measures are needed to protect this wetland ecosystem for the conservation of migratory birds.

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Table 1. List of birds recorded from Kole wetlands of Thrissur

#	Common Name	Scientific Name	Abund.	Status	#	Common Name	Scientific Name	Abund.	Status
<u>Podicipedidae</u>					<u>Dendrocygnidae</u>				
1.	Little Grebe	<i>Trachybaptus ruficollis</i>	C	R	27.	Lesser Whistling Duck	<i>Dendrocygna javanica</i>	C	R
<u>Pelecanidae</u>					<u>Anatidae</u>				
2.	Spot-billed Pelican	<i>Pelecanus philippensis</i>	O	R	28.	Northern Pintail	<i>Anas acuta</i>	A	M
<u>Sulidae</u>					29.	Northern Shoveller	<i>Anas clypeata</i>	C	M
3.	Masked Booby	<i>Sula dactylatra</i>	O	M	30.	Common Teal	<i>Anas crecca</i>	U	M
<u>Phalacrocoracidae</u>					31.	Spot-billed Duck	<i>Anas poecilorhyncha</i>	C	LM
4.	Great Cormorant	<i>Phalacrocorax carbo</i>	C	LM	32.	Garganey	<i>Anas querquedula</i>	C	M
5.	Indian Cormorant	<i>Phalacrocorax fuscicollis</i>	O	LM	33.	Gadwall	<i>Anas strepera</i>	C	M
6.	Little Cormorant	<i>Phalacrocorax niger</i>	A	R	34.	Ferruginous Pochard	<i>Aythya nyroca</i>	C	M
<u>Anhingidae</u>					35.	Cotton Pygmy Goose	<i>Nettapus coromandelianus</i>	C	LM
7.	Oriental Darter	<i>Anhinga melanogaster</i>	C	LM	<u>Accipitridae</u>				
<u>Ardeidae</u>					36.	Shikra	<i>Accipiter badius</i>	U	R
8.	Grey Heron	<i>Ardea cinerea</i>	C	R	37.	Eurasian Sparrow Hawk	<i>Accipiter nisus</i>	U	M
9.	Purple Heron	<i>Ardea purpurea</i>	C	R	38.	Eurasian Marsh Harrier	<i>Circus aeruginosus</i>	C	M
10.	Pond Heron	<i>Ardeola grayii</i>	C	R	39.	Pallid Harrier	<i>Circus macrourus</i>	U	M
11.	Cattle Egret	<i>Bubulcus ibis</i>	A	R	40.	Pied Harrier	<i>Circus melanoleucos</i>	U	M
12.	Great Egret	<i>Casmerodius albus</i>	U	R	41.	Black-shouldered Kite	<i>Elanus caeruleus</i>	U	R
13.	Black Bittern	<i>Dupetor flavicollis</i>	C	R	42.	Brahminy Kite	<i>Haliastur indus</i>	C	R
14.	Little Egret	<i>Egretta garzetta</i>	A	R	43.	Black Kite	<i>Milvus migrans</i>	C	R
15.	Western Reef Egret	<i>Egretta gularis</i>	O	R	44.	Osprey	<i>Pandion haliaetus</i>	U	R
16.	Cinnamom Bittern	<i>Ixobrychus cinnamomeus</i>	U	R	45.	Oriental Honey Buzzard	<i>Pernis ptilorhynchus</i>	U	LM
17.	Yellow Bittern	<i>Ixobrychus sinensis</i>	U	R	<u>Phasianidae</u>				
18.	Intermediate Egret	<i>Mesophoyx intermedia</i>	A	R	46.	Grey Francolin	<i>Francolinus pondicerianus</i>	U	R
19.	Black-crowned Night Heron	<i>Nycticorax nycticorax</i>	C	R	47.	Red Spur Fowl	<i>Galloperdix spadicea</i>	U	R
<u>Ciconiidae</u>					<u>Rallidae</u>				
20.	Asian Openbilled Stork	<i>Anastomus oscitans</i>	C	LM	48.	White-breasted Waterhen	<i>Amaurornis phoenicurus</i>	C	R
21.	White Stork	<i>Ciconia ciconia</i>	U	M	49.	Common Coot	<i>Fulica atra</i>	U	LM
22.	White-necked Stork	<i>Ciconia episcopus</i>	U	R	50.	Common Moorhen	<i>Gallinula chloropus</i>	C	R
23.	Black Stork	<i>Ciconia nigra</i>	U	M	51.	Purple Swampphen	<i>Porphyrio porphyrio</i>	C	R
24.	Painted Stork	<i>Mycteria leucocephala</i>	O	LM	52.	Ruddy-breasted Crake	<i>Porzana fusca</i>	C	R
<u>Threskiornithidae</u>					<u>Jacaniidae</u>				
25.	Eurasian Spoonbill	<i>Platalea leucorodia</i>	U	LM	53.	Pheasant-tailed Jacana	<i>Hydrophasianus chirurgus</i>	U	LM
26.	Asian White Ibis	<i>Threskiornis melanocephalus</i>	C	LM	54.	Bronze-winged Jacana	<i>Metopidius indicus</i>	C	R
					<u>Glareolidae</u>				
					55.	Small Pratincole	<i>Glareola lactea</i>	C	LM

#	Common Name	Scientific Name	Abund.	Status	#	Common Name	Scientific Name	Abund.	Status
<u>Charadriidae</u>					<u>Psittacidae</u>				
56.	Black-winged Stilt	<i>Himantopus himantopus</i>	C	LM	92.	Rose-ringed Parakeet	<i>Psittacula krameri</i>	U	R
57.	Pied Avocet (Avocet)	<i>Recurvirostra avosetta</i>	C	M	93.	Plum-headed Parakeet (Blossom-headed Parakeet)	<i>P. cyanocephala</i>	U	LM
58.	Red-wattled Lapwing	<i>Vanellus indicus</i>	C	R	<u>Cuculidae</u>				
59.	Yellow-wattled Lapwing	<i>Vanellus malabaricus</i>	O	R	94.	Pied Cuckoo (Pied Crested Cuckoo)	<i>Clamator jacobinus</i>	U	LM
60.	Lesser Sand Plover	<i>Charadrius mongolus</i>	U	M	95.	Indian Hawk Cuckoo	<i>Hierococcyx varius</i>	U	LM
61.	Little Ringed Plover	<i>Charadrius dubius</i>	C	M	96.	Indian Cuckoo	<i>Cuculus micropterus</i>	C	R
62.	Ringed Plover	<i>Charadrius hiaticula</i>	U	M	97.	Banded Bay Cuckoo (Indian Baybanded Cuckoo)	<i>Cacomantis sonneratii</i>	C	LM
63.	Kentish Plover	<i>Charadrius alexandrinus</i>	U	LM	98.	Asian Koel	<i>Eudynamys scolopacea</i>	C	R
<u>Scolopacidae</u>					<u>Centropodidae</u>				
64.	Black-tailed Godwit	<i>Limosa limosa</i>	O	M	99.	Greater Coucal (Crow Pheasant)	<i>Centropus sinensis</i>	C	R
65.	Bar-tailed Godwit	<i>Limosa lapponica</i>	O	M	<u>Tytonidae</u>				
66.	Whimbrel	<i>Numenius phaeopus</i>	O	M	100.	Barn Owl	<i>Tyto alba</i>	C	R
67.	Eurasian Curlew	<i>Numenius arquata</i>	C	M	<u>Strigidae</u>				
68.	Common Redshank	<i>Tringa totanus</i>	C	M	101.	Spotted Owlet	<i>Athene brama</i>	C	R
69.	Marsh Sandpiper	<i>Tringa stagnatilis</i>	C	M	102.	Brown Wood Owl	<i>Strix leptogrammica</i>	U	R
70.	Common Greenshank	<i>Tringa nebularia</i>	C	M	<u>Apodidae</u>				
71.	Green Sandpiper	<i>Tringa ochropus</i>	C	M	103.	Indian Alpine Swift	<i>Tachymarptis melba</i>	C	R
72.	Wood Sandpiper	<i>Tringa glareola</i>	C	M	104.	House Swift	<i>Apus affinis</i>	C	R
73.	Terek Sandpiper	<i>Xenus cinereus</i>	C	M	105.	Asian Palm Swift	<i>Cypsiurus balasiensis</i>	C	R
74.	Common Sandpiper	<i>Actitis hypoleucos</i>	C	M	<u>Cerylidae</u>				
75.	Great Knot	<i>Calidris tenuirostris</i>	U	M	106.	Lesser Pied Kingfisher	<i>Ceryle rudis</i>	C	R
76.	Curlew Sandpiper	<i>Calidris ferruginea</i>	C	M	<u>Alcedinidae</u>				
77.	Broadbilled Sandpiper	<i>Limicola falcinellus</i>	C	M	107.	Common Kingfisher	<i>Alcedo atthis</i>	C	R
78.	Common Snipe	<i>Gallinago gallinago</i>	C	M	<u>Dacelonidae</u>				
79.	Pintailed Snipe	<i>Gallinago stenura</i>	U	M	108.	Stork-billed Kingfisher	<i>Halcyon capensis</i>	C	R
80.	Sanderling	<i>Calidris alba</i>	U	M	109.	White-throated Kingfisher	<i>Halcyon smyrnensis</i>	C	R
81.	Little Stint	<i>Calidris minuta</i>	C	M	110.	Black-capped Kingfisher	<i>Halcyon pileata</i>	U	LM
82.	Temminck's Stint	<i>Calidris temminckii</i>	C	M	<u>Meropidae</u>				
83.	Ruff	<i>Philomachus pugnax</i>	C	M	111.	Blue-tailed Bee-Eater	<i>Merops philippinus</i>	C	LM
<u>Laridae</u>					112.	Green Bee-Eater	<i>Merops orientalis</i>	U	R
84.	Yellow-legged Gull (Herring Gull)	<i>Larus cachinnans</i>	C	M	<u>Coraciidae</u>				
85.	Brown-headed Gull	<i>Larus brunnecephalus</i>	C	M	113.	Indian Roller	<i>Coracias benghalensis</i>	U	R
86.	Common Black-headed Gull	<i>Larus ridibundus</i>	C	M	<u>Columbidae</u>				
87.	Whiskered Tern	<i>Chlidonias hybrida</i>	C	LM	89.	Rock Pigeon (Blue Rock Pigeon)	<i>Columba livia</i>	C	R
88.	Caspian Tern	<i>Sterna caspia</i>	C	M	90.	Indian Spotted Dove	<i>Streptopelia chinensis</i>	C	R
<u>Columbidae</u>					91.	Eurasian Collared Dove (Indian Ring Dove)	<i>Streptopelia decaocto</i>	U	R

#	Common Name	Scientific Name	Abund.	Status	#	Common Name	Scientific Name	Abund.	Status
<u>Megalaimidae</u>					138.	Pale capped Babbler	<i>Turdoides affinis</i>	C	R
114.	White-cheeked Barbet	<i>Megalaima viridis</i>	C	R	139.	Common Babbler	<i>Turdoides caudatus</i>	O	R
<u>Picidae</u>					140.	Jungle Babbler	<i>Turdoides striatus</i>	C	R
115.	Black-rumped Flame-backed Woodpecker	<i>Dinopium benghalense</i>	U	R	141.	Rufous Babbler	<i>Turdoides subrufus</i>	U	R
<u>Hirundinidae</u>					<u>Cisticolidae</u>				
116.	Red-rumped Swallow	<i>Hirundo daurica</i>	C	LM	142.	Zitting Cisticola	<i>Cisticola juncidis</i>	C	R
117.	Barn Common Swallow	<i>Hirundo rustica</i>	C	LM	143.	Grey-breasted Prinia	<i>Prinia hodgsonii</i>	C	R
<u>Oriolidae</u>					144.	Plain Prinia	<i>Prinia inornata</i>	C	R
118.	Eurasian Golden Oriole	<i>Oriolus oriolus</i>	U	LM	145.	Ashy Prinia	<i>Prinia socialis</i>	C	R
119.	Black-hooded Oriole	<i>Oriolus xanthomus</i>	U	R	<u>Sylviidae</u>				
<u>Dicruridae</u>					146.	Blyth's Reed Warbler	<i>Acrocephalus dumetorum</i>	U	LM
120.	White-bellied Drongo	<i>Dicrurus caeruleus</i>	C	R	147.	Clamorous Reed-Warbler	<i>Acrocephalus stentoreus</i>	U	R
121.	Ashy Drongo	<i>Dicrurus leucophaeus</i>	C	R	148.	Common Tailor Bird	<i>Orthotomus sutorius</i>	C	R
122.	Black Drongo	<i>Dicrurus macrocercus</i>	C	LM	<u>Passeridae</u>				
<u>Sturnidae</u>					149.	Red Munia	<i>Amandava amandava</i>	C	R
123.	Jungle Myna	<i>Acridotheres fuscus</i>	C	R	150.	Paddy Field Pipit	<i>Anthus rufulus</i>	C	LM
124.	Indian/Common Myna	<i>Acridotheres tristis</i>	C	R	151.	Hill Munia	<i>Lonchura kelaarti</i>	U	R
<u>Corvidae</u>					152.	Black-headed Munia	<i>Lonchura malacca</i>	A	R
125.	Common Iora	<i>Aegithina tiphia</i>	U	R	153.	Plain Munia	<i>Lonchura malabarica</i>	C	R
126.	Ashy Wood Swallow	<i>Artamus fuscus</i>	U	R	154.	Scaly-breasted Munia	<i>Lonchura punctulata</i>	C	R
127.	Jungle Crow	<i>Corvus macrorhynchos</i>	U	R	155.	White-rumped Munia	<i>Lonchura striata</i>	U	R
128.	House Crow	<i>Corvus splendens</i>	C	R	156.	Grey Wagtail	<i>Motacilla cinerea</i>	U	M
129.	Rufous Tree Pie	<i>Dendrocitta vagabunda</i>	C	R	157.	Citrine Wagtail	<i>Motacilla citreola</i>	U	M
<u>Irenidae</u>					158.	Yellow Wagtail	<i>Motacilla flava</i>	O	LM
130.	Jerdon's Leafbird	<i>Chloropsis cochinchinensis</i>	C	R	159.	Large Pied Wagtail	<i>Motacilla maderaspatensis</i>	C	R
<u>Pycnonotidae</u>					160.	Chestnut-shouldered Petronia	<i>Petronia xanthocollis</i>	C	R
131.	Red-vented Bulbul	<i>Pycnonotus cafer</i>	C	R	161.	Streaked Weaver	<i>Ploceus manyar</i>	C	R
132.	Red-whiskered Bulbul	<i>Pycnonotus jocosus</i>	U	LM	162.	Baya Weaver	<i>Ploceus philippinus</i>	A	R
<u>Muscicapidae</u>					<u>Nectariniidae</u>				
133.	Oriental Magpie Robin	<i>Copsychus saularis</i>	C	R	163.	Thick-billed Flowerpecker	<i>Dicaeum agile</i>	C	R
134.	Desert Wheatear	<i>Oenanthe deserti</i>	O	M	164.	Tickell's Flowerpecker	<i>Dicaeum erythrorhynchos</i>	C	R
135.	Pied Bushchat	<i>Saxicola caprata</i>	U	R	165.	Purple Sunbird	<i>Nectarinia asiatica</i>	C	R
136.	Indian Robin	<i>Saxicoloides fulicata</i>	U	R	166.	Loten's Sunbird	<i>Nectarinia lotenia</i>	U	R
137.	Asian Paradise Flycatcher	<i>Terpsiphone paradisi</i>	U	LM	167.	Purple-rumped Sunbird	<i>Nectarinia zeylonica</i>	C	R

A- Abundance; C- Common; U- Uncommon; O- Occasional
R- Resident; M- Migrant; LM- Local Movement

Common names are after Manakadan, *et al.* (1998) and scientific names and taxonomy after Inskipp *et al.* (1996)

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THE BLACK DRONGO'S (*DICRURUS MACROCERCUS* (BECHSTEIN)) WHITE CROWN

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The Black Drongo (*Dicrurus adsimilis* (Bechstein)) or the King Crow belongs to the family Dicruridae. It is a common resident bird seen all over India. It inhabits open deciduous forests and cultivated lands.

A Black Drongo was noticed residing near the Kerala Agricultural University campus in October 1999, in a rice field and deserves special mention. The body size and the colour were same as that of other Black Drongos, but the head had a prominent white round patch at the top. The feathers at the top of the head were striking white giving a complete contrast, resembling a crown. The patch did not extend down up to the eyes of the bird. The bird was an adult and the two white spots on the sides of the bill were prominent. The bird was noticed perching on the tip of busstops, electric cables, and its feeding pattern was same as that of the other Black Drongos. The rice fields provided a feast of insects for the bird. This bird made attempts to chase and attack crows, kites, etc, flying through the locality as other Black Drongos do. This Drongo is resident, according to the local people.

The white patch was seen on the top of the head only, and the rest of the body remained jet black. This cannot be considered as albinism where the whole body becomes white due to the lack of pigment production. There are no previous records of the Drongo's albinism or 'a Black Drongo with a white patch' but in many other birds and animals, albinism has been reported. The present case may be considered as a freak of nature.

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