## An update on the distribution of Lesser Fish-Eagle *Ichthyophaga humilis* in southern India

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esser Fish-Eagle *Ichthyophaga humilis* is known to depend on forest-fringed water bodies with good stocks of fish (BirdLife International 2010). It is thought to be undergoing a moderate population reduction owing to forest degradation, over-fishing, and quite possibly by pollution of its habitat, and hence is classified as Near Threatened (BirdLife International 2010).

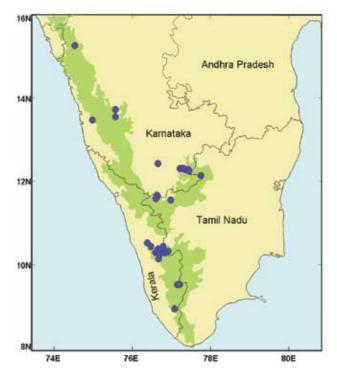
Historically, the species was known to occur in the Himalayan foothills and north-eastern India (Naoroji 2007) until it was discovered from Cauvery Wildlife Sanctuary, Karnataka (Lethaby 2004), followed by several sight and photographic records from other parts of southern India. Many of these sightings were reported in email discussion groups of *Bngbirds, KeralaBirder, TamilBirds,* nature photograph websites like *www.indianaturewatch.net,* or via personal emails to the author.

Almost all sightings from Kerala (n=14/15) were reported during organised bird surveys by Kerala Forest Department (Praveen & Nameer 2009), while all reports from Karnataka (n=13), and Tamil Nadu (n=4), were the results of uncoordinated, independent trips. Care was taken to double-check the identification of the species with the observer(s), particularly the diagnostic brown upper-tail coverts, contra white in Greyheaded Fish-Eagle I. ichthyaetus (Naoroji 2007). In many cases an observer(s) captured at least one photograph showing these field marks. Some of the record sites (n=14) are well frequented by birdwatchers / photographers and there are multiple sightings from here (indicated by <sup>‡</sup>), as well as year-round observations; hence for consistency, only the names of first observer, and the date of first observation are mentioned in the Table. Sites (n=7) where the author has made observations are marked with an asterisk (\*) while sites (n=12) from where the author has verified photographs are marked with a 'plus' (+). All the sightings are mapped to give a perspective of the distribution (Map). For the record, the first sighting from Karnataka was in December 2003, from Kerala in January 2006, and from Tamil Nadu in June 2009.

This note summarises the sightings of this raptor from 32 locations in Karnataka (KA), Tamil Nadu (TN), and Kerala (KE) since 2003 (Table).

As it can be seen from the map, there are two major concentrations for the species. One around the basin of midcourse of the Cauvery River, from about Ranganathittu till Hogenekkal, while the second around the Chalakudy River basin. These two regions account for 65% of the sightings from southern India and hence it is recommended that all efforts should be directed to conserve the species in these areas. It is also of relevance that nearly 80% (n=25) of the sightings are in protected areas (see Table). Significantly too, nearly half the sites (n=15) in southern India are reservoirs (indicated by †) on rivers, mostly originating in the Western Ghats and flowing west. The marked habitat preference of the species, "... swift-flowing higher forested reaches of the rivers ..." (Naoroji 2007), does not necessarily seem to be the case in southern India. Almost all the west-flowing rivers of Western Ghats have been dammed, and the species has probably adapted to the high concentration of fish in these near-stagnant waters.

It is worth mentioning that all the fish-eagles seen in southern India in the past were believed to be Grey-headed Fish-Eagle until photographs from Cauvery Wildlife Sanctuary (WLS) were scrutinised. Previously well-known sites for *ichthyaetus*, including Periyar Tiger Reserve, Parambikulam Tiger Reserve, Vazhachal reserve forest, and Thattekkad Bird Sanctuary in Kerala were rechecked during bird surveys, with the help of recent fieldidentification literature, and the fish-eagles have turned out to be *humilis*!



Map. Distribution of Lesser Fish-Eagle *lchthyophaga humilis* in southern India. Green=Western Ghats; Blue dots=Bird sightings. (Courtesy: S. Subramanya)

Site	PA / RF	Status	ST	River	First Observer	First Observation	References
Ganeshgudi+	Dandeli	WLS	KA	Kali	SS <sup>+</sup>	Dec 2007 <sup>‡</sup>	Shivaram (2008)
Lakkavalli	Bhadra	WLS	KA	Bhadra†	PJ*	Dec 2008 <sup>‡</sup>	Personal observation
Kudre-Hebbe	Bhadra	WLS	KA	Bhadra†	VMR	Jan 2010	Mohan Raj (2010)
Hebri	Someshwara	WLS	KA	Seetanadi	GT	July 2010	Timappur (2010)
Ranganathittu+	Ranganathittu	BS	KA	Cauvery	SSL <sup>+</sup>	Feb 2008 <sup>‡</sup>	Saligram (2008)
Mekadatu	Cauvery	WLS	KA	Cauvery	PJ*	Aug. 2006	Personal observation
Doddamakkalli	Cauvery	WLS	KA	Cauvery	SS <sup>+</sup>	June 2004 <sup>‡</sup>	Lethaby (2004)
Bheemeshwari+	Cauvery	WLS	KA	Cauvery	SS*+	May 2004 <sup>‡</sup>	Lethaby (2004)
Muthathi+	Cauvery	WLS	KA	Cauvery	DK <sup>+</sup>	, June 2010 <sup>‡</sup>	D. Karuthedathu ( <i>pers. comm</i> . June 2010)
Galibore+	Cauvery	WLS	KA	Cauvery	VC*+	Dec 2003 <sup>‡</sup>	Lethaby (2004)
Sangam <sup>+</sup>	Cauvery	WLS	KA	Cauvery	PJ*	Aug. 2006	Personal observation
Hogenekkal	Hosur	RF	ΤN	Cauvery	PJ*	June 2009 <sup>‡</sup>	Personal observation
Huli Katte	Bandipur	NP	KA	None	SVT <sup>+</sup>	July 2010	S. V. Thimappa (pers. comm. July 2010)
Yere Katte	Bandipur	NP	KA	None	SVT	May 2010	Thimappa (2010)
Mudumalai+	Mudumalai	WLS	TN	Moyar	JB+	Mar. 2010	Balamurugan (2010)
Mangalapatti+	Satyamangalam	RF	ΤN	Moyar	CG <sup>+</sup>	Apri.2010	Christopher G. (pers. comm. June 2010)
Moodal	Peechi-Vazhani	WLS	KE	Manali†	DK	Nov. 2006	Nameer & Nirmal 2007a
Mulappara <sup>+</sup>	Chimmony	WLS	KE	Chim-	PON	Nov. 2006	Nameer & Nirmal 2007b
				mony†			
Thunakadavu	Parambikulam	TR	KE	Chalakudy†	PON <sup>+</sup>	Jan. 2006 <sup>‡</sup>	Sashikumar <i>et. al.</i> 2010a. <i>In press</i>
Muthuvarachal	Parambikulam	TR	KE	Chalakudy	DK	Dec. 2006	Nameer & Praveen 2007
	Vazhachal	RF	KE	Chalakudy	RS	Feb. 2008	Uthaman & Nameer 2008
	Anamalais	WLS	TN	Chalakudy†	DR	Sep. 2009	Raju (2009)
Pooppara	Parambikulam	TR	KE	Chalakudy†	KGK	Dec. 2006	Nameer & Praveen 2007
0.0	Vazhachal	RF	KE	Chalakudy†	KKA	Feb. 2008	Uthaman & Nameer 2008
	Vazhachal	RF	KE	Chalakudy	SKC	Feb. 2008 <sup>‡</sup>	Uthaman & Nameer 2008
	Vazhachal Vazhachal	RF RF	KE KE	Chalakudy†	AB PKU	Feb. 2008 Feb. 2008	Uthaman & Nameer 2008 Uthaman & Nameer 2008
····	Malayattur	RF	KE KE	Chalakudy† Periyar†	SPN		Sashikumar <i>et. al.</i> 2010a. <i>In press</i>
,	Thattekkad	BS	KE			Jan. 2007 <sup>‡</sup>	Sashikumar <i>et. al.</i> 2010b. <i>In press</i>
				Periyar†	CSK <sup>+</sup>	Feb. 2009 <sup>‡</sup>	1
Aruvioda+	Periyar	TR	KE	Periyar†	DK <sup>+</sup>	Feb. 2008	Nameer et al. 2008
Mullakudy	Periyar	TR	KE	Periyar†	PJ*	Feb. 2008	Nameer et al. 2008
Tenmala +	Shendurney	WLS	KE	Kallada†	CSK <sup>+</sup>	May. 2009 <sup>‡</sup>	Sashikumar et al. 2010b. In press

BS = Bird Sanctuary, RF = Reserve Forest, TR = Tiger Reserve, WLS = Wildlife Sanctuary.

Observer acronyms: AB=Amitabh Bachan, CG=Christopher G, CSK=C Sashikumar, DK=Dipu Karuthedathu, DR=David Raju, GT=Guruprasad Timappur, KGK=Karthik GK, KKA=Kishore KA, JB=J Balamurugan, PJ=Praveen J, PON=PO Nameer, PKU=PK Uthaman, SPN=S Prasanth Narayanan,RS=Raju S, SKC=Susanth Kumar C, SS=Sudhir Shivram, SSL=Santosh Saligram, SVT=S Vinaykumar Thimmappa, VC=Vijay Cavale, VMR=Vijay Mohan Raj.

The only known stronghold of *ichthyaetus* from southern India is the Kabini area on the Karnataka–Kerala border where it has been regularly observed and photographed. This region includes northern parts of Wayanad Wildlife Sanctuary in Kerala (Sashikumar et. al. 2010a. In press.), and Nagarhole National Park (Lethaby 2004; Aasheesh Pittie in litt. 5 March 2011), the adjacent regions in Bandipur National Park (Mohan 2007), and Kodagu district (Aasheesh Pittie in litt. 5 March 2011), all in Karnataka. It has also been photographed a few times from Kyathadevara Gudi in Biligiriranga Swamy Temple Wildlife Sanctuary, Karnataka (Yathin 2005; Kulashekara 2007) even though ideal habitat for the bird does not exist inside the sanctuary (Prashanth N. S. pers. comm., June 2010). Dandeli Wildlife Sanctuary, Karnataka, seems to be the only area from where both species have been photographed conclusively (Vijay Mohan Raj pers. comm., October 2010). A photograph from Chimmony Wildlife Sanctuary, Kerala, in June 2008 is believed to be of *ichthyaetus* (Sashikumar et. al. 2010a), and it has been subsequently observed there in September 2010 (Das 2010). A few recent reports of I. ichthyaetus, without proper photo-documentation, exist from Parambikulam Wildlife Sanctuary, Pala region, Vazhachal reserve forest (Sashikumar et. al. 2010a), and Bhadra Wildlife Sanctuary (Vijay Mohan Raj pers. comm. October 2010); however there have not been any repeat observations from these parts. In this context, the conservation significance of the Grey-headed Fish-Eagle swells much as the species is decidedly rare and localised in southern India.1

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<sup>1.</sup> Since the first draft of this manuscript, Lesser Fish-Eagle has been recorded from six new sites namely, three in Neyyar Wildlife Sanctuary (December 2010), one in Peppara Wildlife Sanctuary (December 2010) and two in Malayattur reserve forest (February 2011) during organised bird surveys in Kerala while the Grey-headed Fish-Eagle was photo-documented from Bhadra Wildlife Sanctuary (February 2011) by Mike Prince.

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