

The importance of Sugihan wetlands (South Sumatra province) for birds habitat

By Arum Setiawan

The Importance of Sugihan Wetlands (South Sumatra Province) for Birds Habitat

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Abstract. The Sugihan wetlands is conducted in 2016 to 2019. Three field visits were carried out to looking at how many number of bird an unique landscape in Ogan Komering Ilir district, South Sumatra province, Indonesia. The area covering is about 2.863 km², mostly dominated by wetlands, ranging from peatland to the mangrove zone and including Padang-Sugihan Wildlife Reserve. A survey to asses bird diversity in Sugihan wetlands has been species in this areas. There are 45 species of birds found in Sugihan wetlands, including two species listed as threatened by IUCN (International Union for Conservation of Nature), nine species protected by Indonesian law, and five species listed as CITES (The Convention on International Trade in Endangered Species of Wild Fauna and Flora) appendix II. Presence of threatened, protected species by Indonesian law and number of listed species under CITES appendix II suggest Sugihan wetlands as important habitat for birds.

INTRODUCTION

In terms of the broad definition of wetlands, Indonesia wetlands comprise a large range of habitats [1]. A wetland is a distinct ecosystem that is flooded by water, either permanently or seasonally, where oxygen-free processes prevail [2]. While wetlands have been reclaimed for agriculture in many parts of the world, they are not an ideal land resource for agriculture, because they have important environmental and ecosystem services; high pests and diseases threat; a high water table for extended periods (prone to flooding); saltwater intrusion (for coastal tidal swamps); a low pH of 3 to 4.5; pyrite-affected acid sulfate soils; high concentrations of toxic elements such as iron (Fe), aluminum (Al), sulphur (S), and sodium (Na); and deficiencies in nutrients such as phosphorus (P), potassium (K), zinc (Zn), copper (Cu), and boron (B) [3].

Most of wetland sites in Sumatra can be considered of socio-economic importance, as they provide values and functions, in terms of ecosystem stability, wildlife diversity, hydrological control and natural resource supply [4]. Invasion of the wetlands of Sumatra has gone forward largely driven by the shortage of dry land areas that remain unimpeded by smallholder land-rights and by the opportunity to extract the valuable commercial swamp timber species whose sale off-sets the development costs of the estate companies [5]. The importance of wetland is recognized, from an ecological point of view, wetlands are known to have high biodiversity [1].

In South Sumatra, wetlands has been subject to widespread repeated fires associated with or following intensive logging, transmigration, and plantation development, sonor or swamp rice cultivation, and other local resource use since the 1970s–1980s [6]. Air Sugihan or Sugihan wetlands is a sub-district with total 2.863 km² in Ogan Komering Ilir district, South Sumatra province, Indonesia [7]. This are mostly dominated by wetlands, ranging from peatland to the mangrove zone [8]. Due to their geographic locations and habitat characteristics, Sugihan wetlands

having the importance value as bird habitat. In this paper, we study bird diversity and provide evidence of the importance of Sugihan wetlands as bird habitat.

METHODS

From November 2016 to August 2018, three field surveys were conducted to collect information of birds and fish diversity in Sugihan wetlands, South Sumatra (Fig.1). First survey conducted in November 2016, second survey in December 2017 and third survey in August 2018. The totally days for survey were 30 days. To collect information on bird diversity, three survey methods were applied (riverine survey, time point counts and incidental search), especially by audio-visual observation. Identification of birds was done with the aid field guides, mainly of MacKinnon & Phillipps (1993) [9]. Few birds can be seen in Fig.2.



FIGURE 1. Map of Sugihan wetlands.

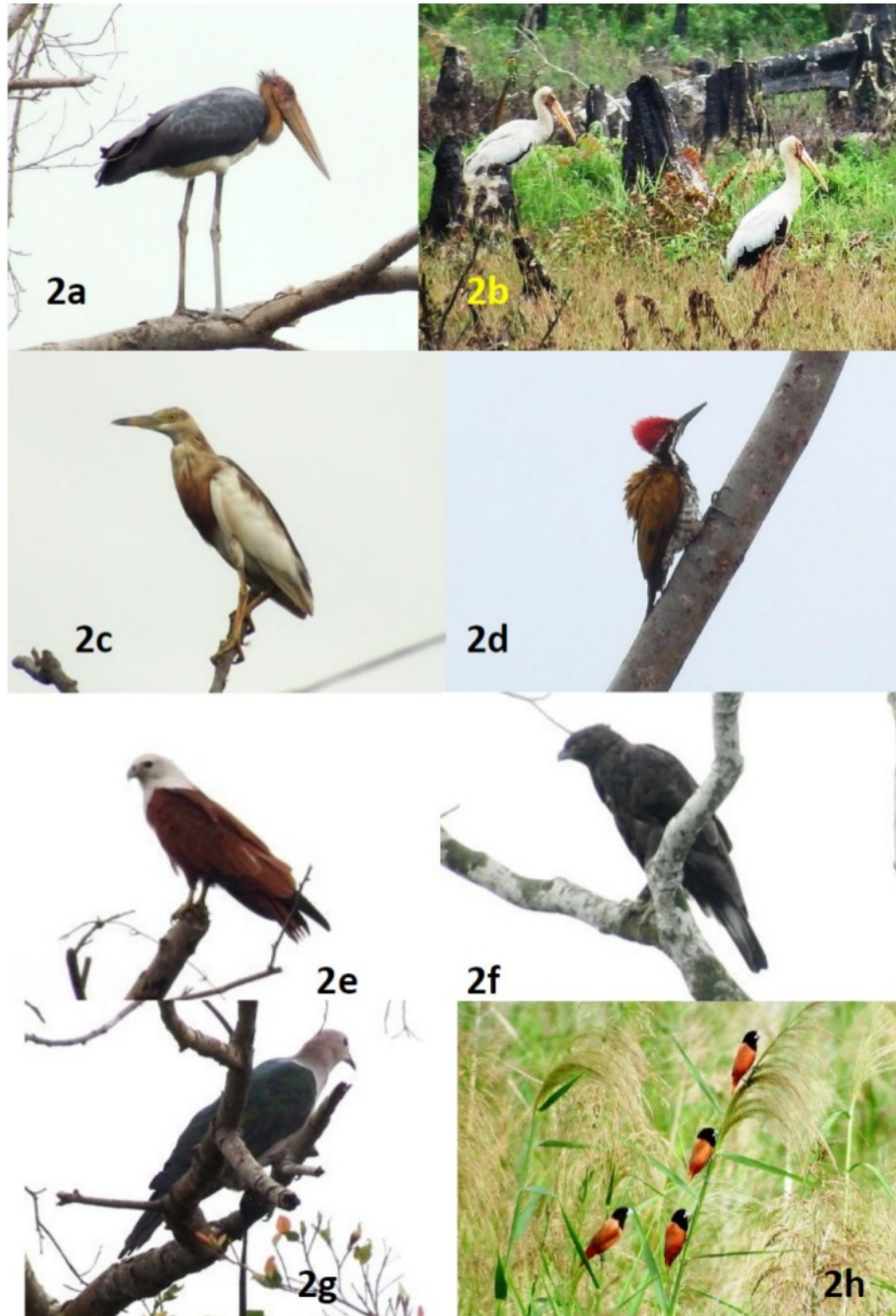


FIGURE 2. The diversity of bird in Sugihan wetlands, South Sumatra (a) *Leptoptilos javanicus*; (b) *Mycteria cinerea*; (c) *Ardeola speciosa*; (d) *Dinopium javanense*; (e) *Haliastur indus*; (f) *Nisaetus cirrhatus*; (g) *Ducula aenea*; (h) *Lonchura Malacca* (Doc: Muhammad Iqbal).

RESULT AND DISCUSSION

Our survey in Sugihan wetlands found a total of 45 species of birds. The species checklist and localities are presented in Table 1. Taxonomy and scientific name follow MacKinnon & Phillipps (1993) [9]. The High Conservation Value (HCV) species of birds were recorded in Sugihan wetlands, including two species are listed by IUCN redlist (International Union for Conservation of Nature), nine species protected by Indonesian law, and five species listed by CITES appendix (The Convention on International Trade in Endangered Species of Wild Fauna and Flora). We define three habitat requirements for the birds in Sugihan wetlands as breeding, feeding and roosting. There are 37 species presumed breed in Sugihan wetlands. The Sugihan wetlands are important as feeding and roosting site for 43 species.

TABLE 1. Birds observed during survey in November 2016 to December 2018 in Sugihan wetlands, Ogan Komering Ilir District, South Sumatra Province.

No.	Species	Conservation Status	Habitat Requirement		
			Breeding	Feeding	Roosting
1	<i>Actitis hypoleucos</i>			+	+
2	<i>Phalacrocorax niger</i>		+	+	+
3	<i>Dendrocygna javanica</i>		+	+	+
4	<i>Ahinga melanogaster</i>	P	?	+	+
5	<i>Ixobrychus cinnamomeus</i>		+	+	+
6	<i>Egretta intermedia</i>		+	+	+
7	<i>Egretta garzetta</i>			+	+
8	<i>Butorides striatus</i>		+	+	+
9	<i>Nycticorax nycticorax</i>		?	+	+
10	<i>Ardeola speciosa</i>		?	+	+
11	<i>Mycteria cinerea</i>	EN, P, I	+	+	+
12	<i>Leptoptilos javanicus</i>	VU, P	+	+	+
13	<i>Gallinula chlorophus</i>		+	+	+
14	<i>Amaurornis phoenicurus</i>		+	+	+
15	<i>Nisaetus cirrhatus</i>	P, II	+	+	+
16	<i>Haliastur indus</i>	P, II	+	+	+
17	<i>Elanus caeruleus</i>	P, II	+	+	+
18	<i>Ichthyopagha humilis</i>	P, II	+	+	+
19	<i>Streptopelia chinensis</i>		+	+	+
20	<i>Ducula aenea</i>		+	+	+
21	<i>Treron vernans</i>		+	+	+
22	<i>Cuculus merulinus</i>		+	+	+
23	<i>Centropus sinensis</i>		+	+	+
24	<i>Centropus bengalensis</i>		+	+	+
25	<i>Merops philippinus</i>		+	+	+
26	<i>Collocalia</i> sp		+	+	+
27	<i>Hirundo rustica</i>			+	+

TABLE 1. Contd'

No.	Species	Conservation Status	Habitat Requirement		
			Breeding	Feeding	Roosting
28	<i>Hirundo tahitica</i>		+	+	+
29	<i>Dinopium javanense</i>		+	+	+
30	<i>Halcyon chloris</i>		+	+	+
31	<i>Halcyon smyrnensis</i>		+	+	+
32	<i>Alcedo coerulescens</i>		+	+	+
33	<i>Pycnonotus goiavier</i>		+	+	+
34	<i>Aplonis panayensis</i>		+	+	+
35	<i>Corvus enca</i>		+	+	+
36	<i>Orthotomus ruficeps</i>		+	+	+
37	<i>Prinia familiaris</i>		+	+	+
38	<i>Acrocephalus</i> sp			+	+
39	<i>Prinia flaviventris</i>		+	+	+
40	<i>Lonchura malacca</i>		+	+	+
41	<i>Aethophyga siparaja</i>	P	+	+	+
42	<i>Lanius schach</i>		+	+	+
43	<i>Acridotheres javanicus</i>	P	+	+	+
44	<i>Ploceus</i> sp		+	+	+
45	<i>Passer montanus</i>		+	+	+
Total		9	37	43	43

The records of 45 species of birds and nine species as High Conservation Value birds (listed as RedList by IUCN, protected by Indonesian law and listed as CITES appendix) suggest the importance of Sugihan wetlands as importance habitat for birds. The Sugihan wetlands is bordering or part of The Padang-Sugihan Wildlife Reserve that a Wildlife Sanctuary important habitat for lowland birds in South Sumatra [8, 10, 11]. The Sugihan wetlands is one important breeding site for endangered Milky stork *Mycteria cinerea* [12, 13], including summering area for whimbrel *Numenius phaeopus* [14]. In addition, Iqbal et al. (2016) proved the evidence a small conservation natural habitat of 448 ha in Sugihan wetlands surrounding by Acacia timber plantation can support 36 bird species [15]. Our study indicates Sugihan wetlands having the importance value as bird habitat although many areas here were converted for any purposes. The unique geographic locations and habitat characteristics of Sugihan wetlands need special concern, to make regional development and conservation of biodiversity resources can implemented together.

CONCLUSION

The Sugihan wetlands is an unique wetland habitat in southern Sumatra that support at least 45 species of birds. This study indicate Sugihan wetlands having the importance value although many areas here were converted for any purposes. Further study is needed to learn biodiversity and ecological characteristics of Sugihan wetlands, to support sustainability of regional developments and the importance of wetlands as bird habitat.

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