

# Ecological Survey Report: Bird

## Annex D-2

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### CHAPTER 2

#### DIVERSITY OF ORNITHOLOGY FAUNA

##### 2.1 Introduction

The project area of Myanmar International Thilawa Terminal located in the Thanlwin and Kyauk-Tan Townships is near to the Bay of Bengal. The project area is quite different in habitat types from those of inland area. Consequently, the water birds, shore birds, and terrestrial birds can be found in that area. The birds and flowering plants are coexisting species according to the long history of evolution. Most terrestrial birds depend on the plants for food and shelter. Most terrestrial birds are frugivores, granivores, nectarivores, and insectivores. Trees or any other plants is key important for the existence of the birds.

##### 2.2 Species composition and observed frequency

A total 61 species of birds belonging to 50 genera, 26 families, and seven orders were observed in this study sites, in which 44 species of order Passeriformes, six species of order Charadriiformes and Ciconiiformes, 2 species of order Gruiformes and one species of order Anseriformes, Pelecaniformes and Falconiformes in the project area (Table 2.1 and 2.2).

The species identification was based on the Field guide book of “Birds of South-East Asia” and bird count was by direct count method, block count method (5,5,5,...) and point count method.

Total of 17 migratory species and 44 resident ones were noted; 12 terrestrial and 5 water bird species were included in migratory birds and 45 terrestrial bird species and 16 water bird species were resident birds.

It may be assumed that this study area is more preferable for resident birds. It may be extension of industrial zone, illegal fishing, disturbance, little impact and scanty of shelter along the river bank for water birds in this area.

##### 2.3 Bird species collected from different survey site

The highest species was recorded in survey site II, second highest number of species from survey site V which followed by survey site I while the lowest species was recorded in survey site VI.

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### 2.4 Observed frequency and relative abundance of bird species

Only one species *Phylloscopus fuscatus* of the highest observed frequency (8 times) was recorded in this area. Second highest observed frequency (6 times) was found in *Actitis hypoleucos* species, the third highest frequency (4 time) for 2species while the least observed frequency was in 44 species.

### 2.5 Habitat preference of bird species

Totally 5 habitat types were recorded in project area, 35 species on the tree, 18 species were recorded in shrub and bushes, 21 species in open country, 7 species in marches and 7 species in water.

The highest number of species was recorded on the tree and lowest number of species recorded in marches and water.

### 2.6 Mitigation measures and management plan

**Table 2.1 Recorded avifauna species found in the area of Thilawa project**

No.	Order/ Family	Scientific Name	Common Name	Vernacular Name
1	<b>Anseriformes</b> Anatidae	<i>Tadorna ferruginea</i>	Ruddy Shelduck	Hinthath
2	<b>Pelecaniformes</b> Phalacrocoracidae	<i>Phalacrocorax niger</i>	Little Cormorant	Aw-raw
3	<b>Gruiformes</b> Rallidae	<i>Amauornis phoenicurus</i>	White-breasted Waterhen	Ye-kyet-ma
4		<i>Porzana fusca</i>	Ruddy-breasted Crake	
5	<b>Charadriiformes</b> Scolopacidae	<i>Tringa erythropus</i>	Spotted Redshank	Chay-ni-ka-lay
6		<i>T. ochropus</i>	Green Sandpiper	Ye-nyaunt
7		<i>Xenus cinereus</i>	Terek Sandpiper	Ye-nyaunt
8	Scolopacidae	<i>Actitis hypoleucos</i>	Common Sandpiper	Ye-nyaunt
9	Charadriidae	<i>Charadrius dubius</i>	Little Ringed Plover	Ta-lai-gaung
10		<i>Vanellus indicus</i>	Red-wattled Lapwing	Tit-ti-tu
11	Ciconiiformes Ardeidae	<i>Egretta garzetta</i>	Little Egret	Tha-ra-wa-dy bying
12		<i>Bubulcus ibis</i>	Cattle Egret	Kywe-kyaung-bying

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**Table 2.1 Recorded avifauna species found in the area of Thilawa project (Contd.)**

No.	Order/ Family	Scientific Name	Common Name	Vernacular Name
13	Ciconiiformes Ardeidae	<i>Ardeola sp</i>	Pond Heron	Bying-aut
14		<i>Butorides striatus</i>	Little Heron	
15		<i>Nycticorax nycticorax</i>	Black-crowned Night Heron	Lin-wet
16		<i>Ixobrychus cinnamomeus</i>	Cinnamon Bittern	Sat-bying
17	<b>Falconiformes</b> Accipitridae	<i>Milvus migrans</i>	Black Kite	Swon
18	<b>Passeriformes</b> Picidae	<i>Dandrocopos mahrattensis</i>	Yellow-crowned Woodpecker	Thit-tauk-hnet
19	Megalaimidae	<i>Megalaima haemancephala</i>	Coppersmith Barbet	Hnet-pan-htein
20	Meropidae	<i>Merops orientalis</i>	Green Bee-eater	Pa-zin-htoe
21	Alcedinidae	<i>Alcedo atthis</i>	Common Kingfisher	Pain-nyin
22	Halcyonidae	<i>Halcyon smyrnensis</i>	White-throated Kingfisher	Pain-nyin
23		<i>H. pileata</i>	Black-capped Kingfisher	Pain-nyin
24	Cuculidae	<i>Cacomantis merulinus</i>	Plaintive Cuckoo	
25	Centropodidae	<i>Centropus sinensis</i>	Greater Coucal	Bote
26	Apodidae	<i>Cypsiurus balasiensis</i>	Asian Palm Swift	Moe-sar
27	Hemiprocridae	<i>Hemiprocne coronata</i>	Crested Treeswift	
28	Columbidae	<i>Columba livia</i>	Rock Pigeon	Kho
29		<i>Streptopelia chinensis</i>	Spotted Dove	Joe-lel-pyauk
30	Laniidae	<i>Lanius cristatus</i>	Brown Shrike	Hnet-ta-zat
31	Corvidae	<i>Dicrurus macrocercus</i>	Black Drongo	Hnet-taw
32		<i>D. aeneus</i>	Bronzed Drongo	
33		<i>Corvus splendens</i>	House Crow	Kyi-kan
34		<i>C. macrorhynchos</i>	Large-billed Crow	Taw-kyi-kan
35		<i>Oriolus chinensis</i>	Black-naped Oriole	Hnet-sa-nwin-war
36		<i>Aegithina tiphia</i>	Common Iora	Shwe-pyi-soe
37		<i>Rhipidura albicollis</i>	White-throated Fantail	

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**Table 2.1 Recorded avifauna species found in the area of Thilawa project  
(Contd.)**

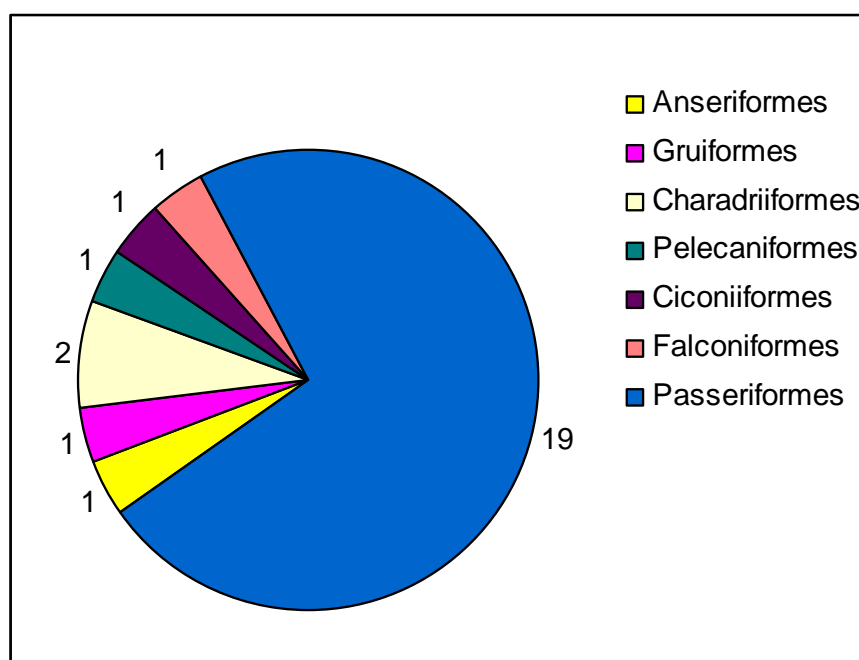
No.	Order/ Family	Scientific Name	Common Name	Vernacular Name
38	Muscicapidae	<i>Ficedula parva</i>	Red-throated Flycatcher	Yin-kaung-phan
39		<i>Copsychus saularis</i>	Oriental Magpie Robin	Tha-peik-lwe
40		<i>Saxicola torquata</i>	Siberian Stonechat	
41		<i>S. caprata</i>	Pied Bushchat	
42	Sturnidae	<i>Sturnus malabaricus</i>	Chestnut-tailed Starling	
43		<i>Acridotheres tristis</i>	Common Myna	Myo-setyet
44		<i>A. fuscus</i>	Jungle Myna	Taw-setyet
45	Hirudinidae	<i>Riparia diluta</i>	Plain Martin	
46		<i>Hirundo rustica</i>	Barn Swallow	Pyan-hlwar
47		<i>H. daurica</i>	Red-rumped Swallow	
48		<i>Delichon dasypus</i>	Asian House Martin	
49	Pycnonotidae	<i>Pycnonotus jocosus</i>	Red-whiskered Bulbul	But-ka-lon
50		<i>P. cafer</i>	Red-vented Bulbul	But-phin-ni
51		<i>P. blanfordi</i>	Streak-eared Bulbul	But-chwe
52	Cisticolidae	<i>Prinia inornata</i>	Plain Prinia	Hnet-let-ma
53		<i>Cisticola juncidis</i>	Zitting Cisticola	
54		<i>Phylloscopus fuscatus</i>	Dusky Warbler	
55		<i>P. inornatus</i>	Yellow-browed Warbler	
56	Nectariniidae	<i>Nectarinia jugularis</i>	Olive-backed Sunbird	Wuit-ye-soat
57		<i>Motacilla alba</i>	White Wagtail	Hmyee-nyaunt
58	Passeridae	<i>Passer domesticus</i>	House Sparrow	Sa-ka-lay
59		<i>P. montanus</i>	Eurasian Tree Sparrow	Sa-ka-lay
60		<i>Ploceus philipinus</i>	Baya Weaver	Sa-wa-tee
61		<i>Lonchura punctulata</i>	Scaly-breasted Munia	

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**Table 2.2 Species composition and numbers of birds in the area of Thilawa project**

Order	No. of family	No. of genus	No. of species	No. of birds
Anseriformes	1	1	1	180
Pelecaniformes	1	1	1	1
Gruiformes	1	2	2	6
Charadriiformes	2	5	6	29
Ciconiiformes	1	6	6	109
Falconiformes	1	1	1	15
Passeriformes	19	34	44	670
Total	26	50	61	1010



**Fig. 1 Species composition of birds in study area**

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**Table 2.3 Activity and status of avifauna species from the area of Thalawa Project**

No.	Scientific Name	Activity Patterns			Observed Number	Seasonal status	Ecological status
		F	P	F			
1	<i>Tadorna ferruginea</i>	✓			180	M	W
2	<i>Phalacrocorax niger</i>	✓			1	R	W
3	<i>Amaurornis phoenicurus</i>	✓	✓		2	R	W
4	<i>Porzana fusca</i>	✓			4	R	W
5	<i>Tringa erythropus</i>	✓	✓	✓	6	M	W
6	<i>T. ochropus</i>	✓	✓	✓	1	M	W
7	<i>Xenus cinereus</i>	✓	✓	✓	1	M	W
8	<i>Actitis hypoleucos</i>	✓	✓	✓	10	M	W
9	<i>Charadrius dubius</i>	✓	✓	✓	6	R	W
10	<i>Vanellus indicus</i>	✓	✓	✓	5	R	W
11	<i>Egretta garzetta</i>	✓	✓	✓	12	M	W
12	<i>Bubulcus ibis</i>	✓	✓	✓	C	M	W
13	<i>Ardeola sp</i>	✓	✓	✓	C	M	W
14	<i>Butorides striatus</i>	✓			1	R	W
15	<i>Nycticorax nycticorax</i>	✓			1	R	W
16	<i>Ixobrychus sinensis</i>	✓			2	R	W
17	<i>Milvus migrans</i>	✓		✓	15	M	W
18	<i>Dandrocopos mahrattensis</i>			✓	1	R	T
19	<i>Megalaima haemancephala</i>		✓		2	R	T
20	<i>Merops orientalis</i>	✓	✓	✓	7	R	T
21	<i>Alcedo atthis</i>	✓	✓		1	R	T
22	<i>Halcyon smyrnensis</i>		✓		3	R	T
23	<i>H. pileata</i>		✓		1	M	T

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**Table 2.3 Activity and status of avifauna species from the area of Thalawa Project (Contd.)**

No.	Scientific Name	Activity Patterns			Observed Number	Seasonal status	Ecological status
		F	P	F			
24	<i>Cacomantis merulinus</i>	✓		✓	1	R	T
25	<i>Centropus sinensis</i>	✓			1	R	T
26	<i>Cypsiurus balasiensis</i>	✓			C	R	T
27	<i>Hemiprone coronata</i>	✓			6	R	T
28	<i>Columba livia</i>	✓	✓	✓	C	R	T
29	<i>Streptopelia chinensis</i>	✓	✓	✓	C	R	T
30	<i>Lanius cristatus</i>		✓	✓	5	M	T
31	<i>Dicrurus macrocercus</i>	✓	✓	✓	C	M	T
32	<i>D. aeneus</i>		✓		7	M	T
33	<i>Corvus splendens</i>	✓	✓	✓	C	M	T
34	<i>C. macrorhynchos</i>	✓			2	R	T
35	<i>Oriolus chinensis</i>	✓		✓	1	R	T
36	<i>Aegithina tiphia</i>	✓	✓	✓	8	R	T
37	<i>Rhipidura albicollis</i>	✓	✓	✓	7	R	T
38	<i>Ficedula parva</i>	✓	✓	✓	3	M	T
39	<i>Copsychus saularis</i>	✓			1	R	T
40	<i>Saxicola torquata</i>	✓	✓		2	M	T
41	<i>S. caprata</i>	✓	✓	✓	4	M	T
42	<i>Sturnus malabaricus</i>	✓			2	R	T
43	<i>Acridotheres tristis</i>	✓	✓	✓	C	R	T
44	<i>A. fuscus</i>	✓	✓		7	R	T
45	<i>Riparia diluta</i>	✓			5	R	T
46	<i>Hirundo rustica</i>	✓	✓		C	M	T

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**Table 2.3 Activity and status of avifauna species from the area of Thalawa Project (Contd.)**

No.	Scientific Name	Activity Patterns			Observed Number	Seasonal status	Ecological status
		Fl	P	Fe			
47	<i>H. daurica</i>	✓			4	M	T
48	<i>Delichon dasypus</i>	✓			8	M	T
49	<i>Pycnonotus jocosus</i>	✓	✓	✓	15	M	T
50	<i>P. cafer</i>	✓	✓	✓	7	R	T
51	<i>P. blanfordi</i>	✓	✓	✓	5	R	T
52	<i>Prinia inornata</i>	✓			2	R	T
53	<i>Cisticola juncidis</i>	✓			3	R	T
54	<i>Phylloscopus fuscatus</i>	✓	✓	✓	10	M	T
55	<i>P. inornatus</i>	✓	✓		1	M	T
56	<i>Nectarinia jugularis</i>	✓			1	R	T
57	<i>Motacilla alba</i>	✓		✓	4	M	T
58	<i>Passer domesticus</i>	✓	✓	✓	C	M	T
59	<i>P. montanus</i>	✓	✓	✓	C	M	T
60	<i>Ploceus philipinus</i>		✓		6	M	T
61	<i>Lonchura punctulata</i>	✓	✓	✓	25	R	T

**Fl, Flying; P. Perching; Fe. Feeding; M. Migratory; R, Resident**

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**Table 2.4 Distribution in different study sites and frequency of birds from the area of Thalawa Project**

No.	Scientific Name	Study sites							Frequency
		I	II	III	IV	V	VI	Total	
1	<i>Tadorna ferruginea</i>				✓			180	1
2	<i>Phalacrocorax niger</i>		✓					1	1
3	<i>Amaurornis phoenicurus</i>				✓			2	2
4	<i>Porzana fusca</i>			✓	✓			4	2
5	<i>Tringa erythropus</i>			✓	✓			6	2
6	<i>T. ochropus</i>				✓			1	1
7	<i>Xenus cinereus</i>				✓			1	1
8	<i>Actitis hypoleucos</i>		✓	✓			✓	10	6
9	<i>Charadrius dubius</i>		✓	✓	✓			6	3
10	<i>Vanellus indicus</i>		✓					5	1
11	<i>Egretta garzetta</i>	✓	✓	✓	✓	✓	✓	12	C
12	<i>Bubulcus ibis</i>	✓	✓	✓	✓	✓	✓	38	C
13	<i>Ardeola sp</i>	✓	✓	✓	✓	✓	✓	55	C
14	<i>Butorides striatus</i>				✓			1	1
15	<i>Nycticorax nycticorax</i>			✓				1	1
16	<i>Ixobrychus cinnamomeus</i>		✓	✓				2	2
17	<i>Milvus migrans</i>	✓	✓	✓	✓	✓	✓	15	C
18	<i>Dandrocopos mahrattensis</i>	✓						1	1
19	<i>Megalaima haemancephala</i>	✓					✓	2	2
20	<i>Merops orientalis</i>	✓				✓	✓	7	3
21	<i>Alcedo atthis</i>				✓			1	1
22	<i>Halcyon smyrnensis</i>		✓			✓		3	2
23	<i>H. pileata</i>						✓	1	1

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**Table 2.4 Distribution in different study sites and frequency of birds from the area of Thalawa Project (Contd.)**

No.	Scientific Name	Study sites							
		I	II	III	IV	V	VI	Total	Frequency
24	<i>Cacomantis merulinus</i>					✓		1	1
25	<i>Centropus sinensis</i>	✓						1	1
26	<i>Cypsiurus balasiensis</i>	✓	✓	✓	✓	✓	✓	50	C
27	<i>Hemiprone coronate</i>	✓	✓		✓	✓		6	3
28	<i>Columba livia</i>					✓	✓	27	4
29	<i>Streptopelia chinensis</i>	✓	✓	✓	✓	✓	✓	35	C
30	<i>Lanius cristatus</i>				✓	✓	✓	5	4
31	<i>Dicrurus macrocercus</i>	✓	✓	✓	✓	✓	✓	48	C
32	<i>D. aeneus</i>		✓			✓		7	2
33	<i>Corvus splendens</i>	✓	✓	✓	✓	✓	✓	90	C
34	<i>C. macrorhynchos</i>		✓		✓			2	2
35	<i>Oriolus chinensis</i>	✓						1	1
36	<i>Aegithina tiphia</i>	✓						8	3
37	<i>Rhipidura albicollis</i>	✓	✓					7	3
38	<i>Ficedula parva</i>		✓					3	2
39	<i>Copsychus saularis</i>	✓						1	1
40	<i>Saxicola torquata</i>		✓			✓		2	2
41	<i>S. caprata</i>		✓			✓		4	3
42	<i>Sturnus malabaricus</i>				✓			2	1
43	<i>Acridotheres tristis</i>	✓	✓	✓	✓	✓	✓	59	C
44	<i>A. fuscus</i>	✓		✓	✓			7	3
45	<i>Riparia diluta</i>	✓	✓					5	2
46	<i>Hirundo rustica</i>	✓	✓	✓	✓	✓	✓	103	C

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**Table 2.4 Distribution in different study sites and frequency of birds from the area of Thalawa Project (Contd.)**

No.	Scientific Name	Study sites							
		I	II	III	IV	V	VI	Total	Frequency
47	<i>H. daurica</i>		✓			✓		4	2
48	<i>Delichon dasypus</i>	✓	✓			✓		8	3
49	<i>Pycnonotus jocosus</i>	✓	✓			✓		15	3
50	<i>P. cafer</i>	✓	✓			✓		7	2
51	<i>P. blanfordi</i>	✓	✓			✓		5	2
52	<i>Prinia inornata</i>		✓					2	2
53	<i>Cisticola juncidis</i>		✓					3	1
54	<i>Phylloscopus fuscatus</i>	✓	✓		✓			10	8
55	<i>P. inornatus</i>		✓					1	1
56	<i>Nectarinia jugularis</i>		✓					1	1
57	<i>Motacilla alba</i>	✓	✓			✓		4	3
58	<i>Passer domesticus</i>		✓			✓		56	C
59	<i>P. montanus</i>		✓			✓		22	C
60	<i>Ploceus philipinus</i>		✓			✓		6	2
61	<i>Lonchura punctulata</i>	✓	✓			✓		37	C

I. Alunswut stream; II. Thilawa old village; III. Bay Pyauk Stream; IV. Shwe Pyauk Stream; V. Phalan stream; VI. Hmyaw Wun Stream and its environs; C . Common

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**Table 2.5    Distribution in different microhabitats of birds from the area of Thalawa Project**

No.	Scientific Name	T	S & B	O	M	W	Total
1	<i>Tadorna ferruginea</i>	-	-	-	-	180	180
2	<i>Phalacrocorax niger</i>	-	-	1	-	-	1
3	<i>Amaurornis phoenicurus</i>	-	-	-	2	-	2
4	<i>Porzana fusca</i>	-	2	-	2	-	4
5	<i>Tringa erythropus</i>	-	-	-	2	-	6
6	<i>T. ochropus</i>	-	-	-	1	-	1
7	<i>Xenus cinereus</i>	-	-	-	-	1	1
8	<i>Actitis hypoleucos</i>	-	-	-	8	2	10
9	<i>Charadrius dubius</i>	-	-	-	6	-	6
10	<i>Vanellus indicus</i>	-	5	-	-	-	5
11	<i>Egretta garzetta</i>	5	-	-	4	3	12
12	<i>Bubulcus ibis</i>	13	-	15	-	10	38
13	<i>Ardeola sp</i>	23	-	20	-	12	55
14	<i>Butorides striatus</i>	1	-	-	-	-	1
15	<i>Nycticorax nycticorax</i>	1	-	-	-	-	1
16	<i>Ixobrychus cinnamomeus</i>	2	-	-	-	-	2
17	<i>Milvus migrans</i>	-	-	15	-	-	15
18	<i>Dandrocopos macei</i>	1	-	-	-	-	1
19	<i>Megalaima haemancephala</i>	2	-	-	-	-	2
20	<i>Merops orientalis</i>		2	5	-	-	7
21	<i>Alcedo atthis</i>	1	-	-	-	-	1
22	<i>Halcyon smyrnensis</i>	3	-	-	-	-	3
23	<i>H. pileata</i>	1	-	-	-	-	1
24	<i>Cacomantis merulinus</i>	-	-	1	-		1

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**Table 2.5    Distribution in different microhabitats of birds from the area of Thalawa Project (Contd.)**

No.	Scientific Name	T	S&B	O	M	W	Total
25	<i>Centropus sinensis</i>	-	1	-	-	-	1
26	<i>Cypsiurus balasiensis</i>	13	-	25	-	12	50
27	<i>Hemiprone coronata</i>	2	-	4	-	-	6
28	<i>Columba livia</i>	12	-	15	-	-	27
29	<i>Streptopelia chinensis</i>	15	-	20	-	-	35
30	<i>Lanius cristatus</i>	3	2	-	-	-	5
31	<i>Dicrurus macrocercus</i>	15	12	21	-	-	48
32	<i>D. aeneus</i>	5	2	-	-	-	7
33	<i>Corvus splendens</i>	15	-	75	-	-	90
34	<i>C. macrorhynchos</i>	-	-	2	-	-	2
35	<i>Oriolus chinensis</i>	1	-	-	-	-	1
36	<i>Aegithina tiphia</i>	5	3	-	-	-	8
37	<i>Rhipidura albicollis</i>	6	1	-	-	-	7
38	<i>Ficedula parva</i>	3	-	-	-	-	3
39	<i>Copsychus saularis</i>	-	1	-	-	-	1
40	<i>Saxicola torquata</i>	-	2	-	-	-	2
41	<i>S. caprata</i>	-	4	-	-	-	4
42	<i>Sturnus malabaricus</i>	-	-	2	-	-	2
43	<i>Acridotheres tristis</i>	34	-	25	-	-	59
44	<i>A. fuscus</i>	5	2		-	-	7
45	<i>Riparia diluta</i>	-	-	5	-	-	5
46	<i>Hirundo rustica</i>	-	13	90	-	-	103
47	<i>H. daurica</i>	-	-	4	-	-	4
48	<i>Delichon dasypus</i>	-	-	8	-	-	8
49	<i>Pycnonotus jocosus</i>	12	3	-	-	-	15

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**Table 5. Distribution in different microhabitats of birds from the area of Thalawa Project (Contd.)**

No.	Scientific Name	T	S&B	O	M	W	Total
50	<i>P. cafer</i>	3	4	-	-	-	7
51	<i>P. blanfordi</i>	4	1	-	-	-	5
52	<i>Prinia inornata</i>	-	2	-	-	-	2
53	<i>Cisticola juncidis</i>	-	3	-	-	-	3
54	<i>Phylloscopus fuscatus</i>	7	3	-	-	-	10
55	<i>P. inornatus</i>	1	-	-	-	-	1
56	<i>Nectarinia jugularis</i>	1	-	-	-	-	1
57	<i>Motacilla alba</i>	-	-	4	-	-	4
58	<i>Passer domesticus</i>	56	-	-	-	-	56
59	<i>P. montanus</i>	22	-	-	-	-	22
60	<i>Ploceus philipinus</i>	6	-	-	-	-	6
61	<i>Lonchura punctulata</i>	18	7	12	-	-	37
Total		317	75	369	29	220	1010

T. Trees; S&B. Shrubs and bushes; O. Open country; M. Marshes; W. Water

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*A. Merops orientalis*



*B. Halcyon pileata*



*C. Lanius cristatus*



*D. Halcyon smyrnensis*

**Plate 1. Avianfauna recorded from the area of Thilawa Project**

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A. *Tadorna ferruginea*



B. *Vanellus indicus*



C. *Amaurornis phenicurus*



D. *Saxicola torquata*



E. *Pycnonotus blanfordi*



F. *Prinia inornata*

**Plate 2. Avifauna recorded from the area of Thilawa Project**