







Bird checklist of Ba Ria Vung Tau Province, Vietnam

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Abstract

Vietnam is renowned for its exceptional biodiversity with birds representing the most diverse group of vertebrates in the country. Despite this richness, data on bird species composition, distribution, and populations in Vietnam remain limited, necessitating enhanced research efforts. This study addresses the research gap in Ba Ria Vung Tau (BRVT) Province, where existing studies have predominantly focused on the Binh Chau Phuoc Buu (BCPB) Nature Reserve and Con Dao National Park. Our research provides a comprehensive avian checklist and distribution data for BRVT resulting from surveys of six key ecosystems: urban areas, agricultural lands, coastal mangrove forests, tropical evergreen forests, inland freshwater bodies, and rivers and canals. Excluding BCPB and Con Dao, we conducted surveys from October 2022 to October 2023 at 52 sites using the Point Transect method. This study recorded 142 bird species, including 6 newly documented species for the province, expanding the provincial checklist to 375 species across 78 families and 21 orders. Among these, 146 species are migratory and 229 are resident. Additionally, 40 species had updated taxonomic classifications and 15 species were identified as endangered. Our findings emphasize the critical need for conservation efforts in tropical evergreen forests, inland freshwater bodies, rivers and canals, and coastal mangrove forests. Effective biodiversity management in BRVT will require increased collaboration with local communities to ensure successful conservation outcomes.

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Introduction

Vietnam is one of the countries with the highest biodiversity in the world (Thuai et al., 2021). Birds are considered the most diverse group of vertebrates in Vietnam according to studies by Craik and Le Quy Minh (2018) that recorded 916 species and a recent study by Le Manh Hung (2020) that recorded 918

species. Additionally, according to two international bird biodiversity databases, IUCN (2024) and Avibase – The World Bird Database (2024), 866 and 966 species have been recorded, respectively. Among all known species recorded in Vietnam there are 10 endemic bird species, 12 species classified as Critically Endangered (CR), 15 species as Endangered (EN), 30 species as Vulnerable (VU), and

53 species as Near Threatened (NT), according to The IUCN Red List (IUCN, 2024).

On 08 December 2021, the Prime Minister of Vietnam issued Decision No. 2067/QĐ-TTg, approving the "Project on Inventory, Monitoring, Reporting, and Building a National Biodiversity Database by 2030 with a Vision to 2050". Furthermore, on 17 May 2022, the Prime Minister also issued Directive No. 04/CT-TTg, outlining urgent tasks and solutions for conserving wild and migratory birds in Vietnam. These actions underscore the government's essential commitment to bird conservation and highlight the significant role of biodiversity. However, current data on species composition, recorded coordinates, distribution characteristics, and population monitoring information for bird species in Vietnam are limited (Thuairé et al., 2021). Thus, researchers play a crucial role in providing and enriching avian data. Their contributions will support local authorities and conservationists to implement the most effective conservation measures for bird species.

Ba Ria Vung Tau (BRVT) is a coastal province located in the southeast region of Vietnam and serves as a transitional area between the South-central Coast and Southern Vietnam. BRVT Province has a favorable geographical position with its southern boundary bordering the East Sea, featuring a 305 km long coastline with beautiful beaches, which facilitates strong development in the marine industry and tourism sectors (Ba Ria Vung Tau Provincial Party Committee Electronic Portal, 2024). To date, several studies have been conducted on the fauna and flora of BRVT Province. However, a unified dataset is still lacking, and many parts of the area remain unexplored, especially in the field of avifauna research. Indeed, several studies on bird fauna have been carried out in the Binh Chau Phuoc Buu Nature Reserve (BCPB), BRVT Province. For instance, the Forest Inventory and Planning Institute (1993) recorded 96 bird species. Le et al. (2000) published results showing 106 species belonging to 44 families and 16 orders. Phung et al. (2013) documented 192 bird species belonging to 56 families and 17 orders in the BCPB Nature Reserve. Hoang (2015) identified 164 bird species belonging to 52 families and 17 orders. Additionally, the Con Dao National Park in BRVT Province has also been studied for its bird fauna, with Nguyen et al. (2021) having recorded 71 species belonging to 32 families and 12 orders.

Across the entire province, a study primarily utilizing data from the Binh Chau Phuoc Buu Nature Reserve (BCPB) identified 200 bird species belonging to 60 families and 18 orders (Department of Natural Resources and Environment of BRVT Province, 2017). In 2019, biodiversity data of BRVT Province, mainly from the BCPB Nature Reserve and its adjacent areas, recorded 100 bird species belonging to 41 families and 13 orders (Department of Natural Resources and Environment of BRVT Province, 2019). According to the Global Biodiversity

Information Facility, 311 bird species have been recorded, belonging to 75 families and 21 orders in BRVT Province, mainly based on data from the Binh Chau Phuoc Buu Nature Reserve and Con Dao National Park (GBIF, 2024).

Although several studies on the avifauna in Ba Ria Vung Tau Province have been conducted, they mainly focused on the Binh Chau Phuoc Buu Nature Reserve and Con Dao National Park. From all these studies, a total of 369 bird species belonging to 78 families and 21 orders have been recorded in BRVT Province. Among them, 14 species are considered endangered, according to IUCN (2024).

While existing studies on BRVT Province's avifauna have largely concentrated on BCPB Nature Reserve and Con Dao National Park, other areas in the province remain insufficiently studied. This study aims to address this knowledge gap by examining these under-researched regions and synthesizing existing data to create a comprehensive checklist and distribution of bird species. This will support more effective management and conservation strategies for biodiversity in BRVT Province.

Material and Methods

Survey sites were selected across six major ecosystems in BRVT Province including urban areas, agricultural lands, coastal mangrove forests, tropical evergreen forests, inland freshwater bodies, and rivers and canals. Besides, the BCPB Nature Reserve and Con Dao National Park in BRVT Province were omitted from the survey because studies on bird species diversity have already been conducted in these areas. A total of 730 species occurrences at 52 survey sites were randomly chosen and investigated, with varying survey times and lengths based on actual conditions and prioritizing routes that cross multiple habitats to maximize species recording in the area (Fig. 1). The dry season surveys were conducted from October 2022 to May 2023, while the wet season surveys took place from June to October 2023.

The Point Transect method (Gregory, 2004) was established in each survey site and was the primary survey method used in the investigation process. Survey lines were randomly selected in habitats based on Google Earth maps. These lines followed trails, rivers, and their banks. Additionally, survey points along the line were randomly determined, with each point at least 200 meters apart to minimize overlap in bird sightings. During the survey, observers moved slowly along the transect line, observing and recording bird species sightings. When reaching a survey point, we stopped, and recorded bird species observed within 20 minutes.

During the survey, we used Vanguard 8x32 binoculars for observation and a Nikon D5 camera paired with a Tamron SP 150–600 mm f/5–6.3 Di VC USD G2 lens to capture images of the birds. For fast-moving species that live in dense bushes and are difficult to observe visually, we recorded them through their calls.

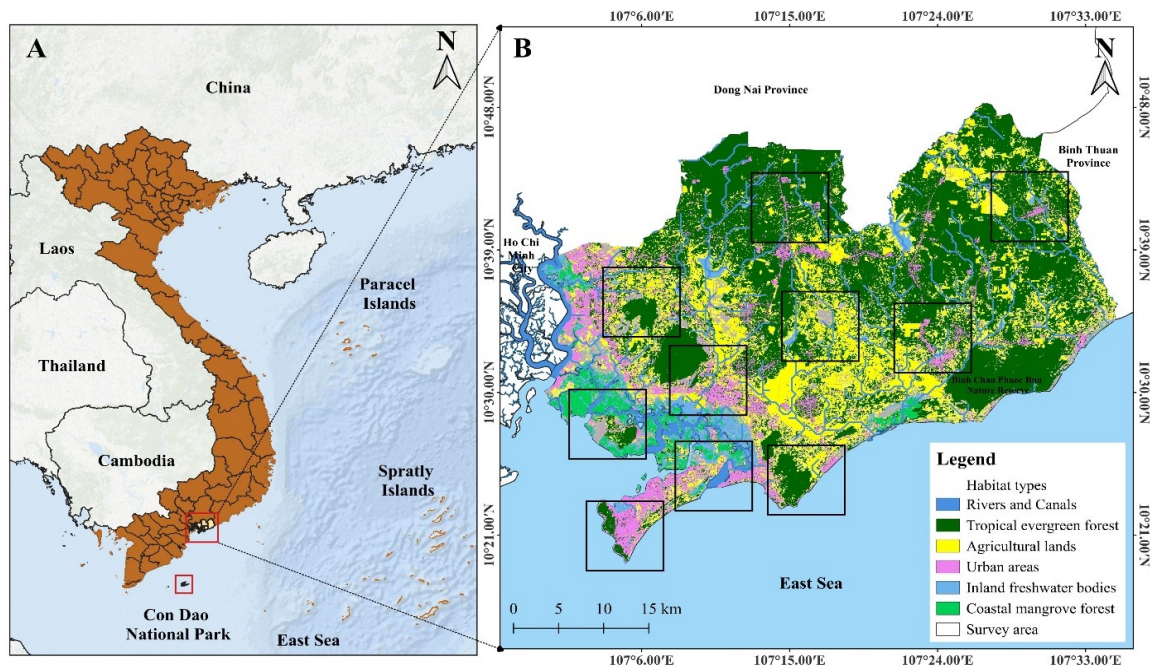


Figure 1: Map of the study area. (A) Location of BRVT Province on a map of Vietnam; (B) Ecosystems and survey areas within BRVT Province. The map was created with QGIS software version 3.32.3. The ecosystem layer data for the study area was provided by the Department of Natural Resources and Environment of Ba Ria Vung Tau Province. The base map of Vietnam was sourced from GADM (Global Administrative Areas) at https://gadm.org/download_country.html.

The survey was conducted during the birds' peak activity times: in the morning from 06:00 to 11:00 and in the afternoon from 15:00 to 18:00. Surveys were not conducted on rainy or very windy days to ensure the safety of the surveyors.

Bird species were directly identified during field surveys. Identification was based on their morphological characteristics, using literature such as *Birds of South-East Asia* (Robson, 2008) and *Birds of Vietnam* (Craik and Le Quy Minh, 2018). Vocal identification was conducted by comparing and cross-referencing recorded sounds with data from Xeno-canto (<https://xeno-canto.org>) to determine species. The taxonomy and nomenclature provided in the index adheres to the guidelines established by Avibase – The World Bird Database (2024). Common names were referenced from Le Manh Hung (2020). The conservation status of bird species was assessed according to the Red Data Book of Vietnam (2007), the IUCN Red List (2024), and Vietnamese governmental decrees such as 06/2019/NĐ-CP and supplementary 84/2021/NĐ-CP on the management of endangered, rare, and precious forest plants and animals. Bird migration characteristics were determined following Birdlife International guidelines (2024).

The list of bird species recorded in Ba Ria Vung Tau Province was made by us based on the following sources and symbols: The species status is classified as resident (R) or migratory (M) based on Birdlife

International (2024). The conservation status follows the IUCN criteria: Least Concern (LC), Near Threatened (NT), Vulnerable (VU), Endangered (EN), Low Risk (LR) and Data Deficient (DD). Species in the forest facing the threat of extinction, for which exploitation and commercial use are strictly prohibited (IB) and species in the forest that are not yet endangered but are at risk of extinction and subject to restrictions on exploitation and commercial use are denoted as (IIB). Data were collected from this study (1); Forest Inventory and Planning Institute (1993) (2); Le et al. (2000) (3); Hoang (2015) (4); Department of Natural Resources and Environment of BR-VT Province (2017) (5); Department of Natural Resources and Environment of BR-VT Province (2019) (6); Nguyen et al. (2021) (7); and GBIF (2024) (8). The species nomenclature was updated according to the latest classification system of Avibase - World Bird Database (2024). The ecosystems in this study were designated as follows: Tropical evergreen forest (TEF); Coastal mangrove forest (CMF); Rivers and canals (RC); Inland freshwater bodies (IFB); Urban area (UA); and Agricultural land (AL).

Results

Our survey resulted in the recording of 142 bird species belonging to 54 families and 18 orders, with an addition of 6 species to the bird checklist of BRVT Province. Images of the bird species recorded in this

study are presented in the Appendix. Based on document reviewing and survey findings, the total number of bird species in the province has increased to 375 species, encompassing 78 families and 21 orders (Table 1), accounting for 38.81% of Vietnam's total bird

species (966 species). Among these, there are 146 migratory species and 229 resident species (Table 1). Additionally, 40 out of the 375 species have been updated with new nomenclature according to the latest classification system (Avibase, 2024) (Table 1).

Table 1: List of avian species recorded in Ba Ria Vung Tau Province, Vietnam.

No.	Species Name	Common Name	Migration status	Status			Data source	Note	Habitats record
				IUCN (2024)	Vietnam's Red Book (2007)	Decree No. 06/2019 and 84/2021			
Accipitriformes									
Accipitridae		Hawks and Eagles							
1	<i>Accipiter badius</i> (Gmelin, 1788)	Shikra	R	LC	-	IIB	1, 4, 5, 8	-	TEF
2	<i>Accipiter gularis</i> (Temminck and Schlegel, 1844)	Japanese sparrowhawk	M	LC	-	IIB	8	-	-
3	<i>Accipiter soloensis</i> (Horsfield, 1821)	Chinese goshawk	M	LC	-	IIB	8	-	-
4	<i>Accipiter trivirgatus</i> (Temminck, 1824)	Crested goshawk	R	LC	-	IIB	8	-	-
5	<i>Accipiter virgatus</i> (Temminck, 1822)	Besra	R	LC	-	IIB	4, 5, 8	-	-
6	<i>Aviceda jerdoni</i> (Blyth, 1842)	Jerdon's baza	R	LC	-	IIB	8	-	-
7	<i>Aviceda leuphotes</i> (Dumont, 1820)	Black baza	M	LC	-	IIB	4, 5, 8	-	-
8	<i>Butastur indicus</i> (Gmelin, 1788)	Grey-faced buzzard	M	LC	-	IIB	8	-	-
9	<i>Circaetus gallicus</i> (Gmelin, 1788)	Short-toed snake-eagle	M	LC	-	IIB	8	-	-
10	<i>Circus melanoleucos</i> (Pennant, 1769)	Pied harrier	M	LC	-	IIB	8	-	-
11	<i>Circus spilonotus</i> Kaup, 1847	Eastern marsh- harrier	M	LC	-	IIB	8	-	-
12	<i>Elanus caeruleus</i> (Desfontaines, 1789)	Black-winged kite	R	LC	-	IIB	1, 2, 3, 4, 5, 6, 7, 8	-	IFB
13	<i>Haliaeetus leucogaster</i> (Gmelin, 1788)	White-bellied sea-eagle	R	LC	-	IIB	6, 7, 8	-	-
14	<i>Hieraetus pennatus</i> (Gmelin, 1788)	Booted eagle	R	LC	-	IIB	8	-	-
15	<i>Milvus migrans</i> (Boddaert, 1783)	Black kite	M	LC	-	IIB	1, 8	-	TEF, IFB
16	<i>Nisaetus cirrhatus</i> (Gmelin, 1788)	Changeable hawk-eagle	R	LC	-	IIB	8	-	-
17	<i>Pernis ptilorhynchus</i> (Temminck, 1821)	Oriental honey- buzzard	M	LC	-	IIB	4, 5, 7, 8	-	-
18	<i>Spilornis cheela</i> (Latham, 1790)	Crested serpent-eagle	R	LC	-	IIB	4, 5, 6, 7, 8	-	-
Pandionidae		Osprey							
19	<i>Pandion haliaetus</i> (Linnaeus, 1758)	Osprey	M	LC	-	-	1, 2, 3, 4, 5, 6, 7, 8	-	CMF
Anseriformes									
Anatidae		Ducks, Geese and Swans							
20	<i>Anas crecca</i> Linnaeus, 1758	Green-winged teal	M	LC	-	-	2, 5, 7	-	-
21	<i>Anas platyrhynchos</i> Linnaeus, 1758	Mallard	M	LC	-	-	7	-	-
22	<i>Anas poecilorhyncha</i> Forster, 1781	Indian spot- billed duck	R	LC	-	-	8	-	-
23	<i>Dendrocygna javanica</i> (Horsfield, 1821)	Lesser whistling-duck	R	LC	-	-	2, 3, 4, 5, 8	-	-
24	<i>Nettapus coromandelianus</i> (Gmelin, 1789)	Cotton pygmy- goose	M	LC	EN	-	4, 5, 8	-	-
Apodiformes									
Apodidae		Swifts							
25	<i>Aerodramus germani</i> (Oustalet, 1876)	Germain's swiftlet	R	LC	-	-	1, 3, 8	-	TEF, CMF, RC, IFB, UA, AL
26	<i>Aerodramus brevirostris</i> (Horsfield, 1840)	Himalayan swiftlet	M	LC	-	-	3, 5, 8	-	-

Table 1: (Continued).

No.	Species Name	Common Name	Migration status	Status			Data source	Note	Habitats record
				IUCN (2024)	Vietnam's Red Book (2007)	Decree No. 06/2019 and 84/2021			
27	<i>Aerodramus fuciphagus</i> (Thunberg, 1812)	White-nest swiftlet	R	LC	-	-	7	-	-
28	<i>Apus affinis</i> (Gray, 1830)	Little swift	R	LC	-	-	2, 3, 4, 5	-	-
29	<i>Apus nipalensis</i> (Hodgson, 1837)	House swift	R	LC	-	-	5, 8	-	-
30	<i>Apus pacificus</i> (Latham, 1801)	Pacific swift	M	LC	-	-	8	-	-
31	<i>Cypsiurus balasiensis</i> (Gray, 1829)	Asian palm swift	R	LC	-	-	4, 5, 6, 8	-	-
32	<i>Hemiprocne coronata</i> (Tickell, 1833)	Crested treeswift	R	LC	-	-	8	-	-
33	<i>Hirundapus cochinchinensis</i> (Oustalet, 1878)	Silver-backed needletail	M	LC	-	-	6, 8	a	-
34	<i>Hirundapus giganteus</i> (Temminck, 1825)	Brown-backed needletail	R	LC	-	-	6, 8	-	-
Bucerotiformes									
Upupidae		Hoopoes							
35	<i>Upupa epops</i> Linnaeus, 1758	Eurasian noopoe	M	LC	-	-	1, 4, 5, 6, 8	-	TEF, IFB, RC
Bucerotidae		Hornbills							
36	<i>Anthraceros albirostris</i> (Shaw, 1808)	Oriental pied- hornbill	R	LC	-	-	2, 3, 4, 5, 8	-	-
Caprimulgiformes									
Caprimulgidae		Nightjars							
37	<i>Caprimulgus affinis</i> Horsfield, 1821	Savanna nightjar	R	LC	-	-	1, 8	-	TEF
38	<i>Caprimulgus asiaticus</i> Latham, 1790	Indian nightjar	R	LC	-	-	8	-	-
39	<i>Caprimulgus jotaka</i> Temminck, 1844	Gray nightjar	M	LC	-	-	2, 3, 5	a	-
40	<i>Caprimulgus macrurus</i> Hordfield, 1821	Large-tailed nightjar	R	LC	-	-	1, 2, 3, 4, 5, 8	-	TEF, CMF
41	<i>Lyncornis macrotis</i> (Vigors, 1831)	Great Eared- nightjar	R	LC	-	-	8	-	-
Charadriiformes									
Bruhinae		Thick-knees							
42	<i>Esacus recurvirostris</i> (Cuvier, 1829)	Great Thick- knee	R	NT	-	-	4, 5, 8	-	-
Charadriidae		Plovers							
43	<i>Charadrius alexandrinus</i> (Linnaeus, 1758)	Kentish plover	M	LC	-	-	1, 2, 3, 4, 5, 6, 7, 8	-	CMF, AL
44	<i>Charadrius dealbatus</i> (Linnaeus, 1758)	White-faced plover	M	LC	-	-	1	New record	CMF, AL
45	<i>Charadrius dubius</i> (Scopoli, 1786)	Little-ringed plover	M	LC	-	-	1, 2, 3, 5, 6, 8	-	AL
46	<i>Charadrius leschenaultii</i> (Lesson, 1826)	Greater Sand plover	M	LC	-	-	1, 8	-	CMF, AL
47	<i>Charadrius mongolus</i> (Pallas, 1776)	Siberian Sand plover	M	EN	-	-	1, 7, 8	-	CMF, AL
48	<i>Pluvialis fulva</i> (Gmelin, 1789)	Pacific Golden- plover	M	LC	-	-	1, 6, 8	-	AL
49	<i>Pluvialis squatarola</i> (Linnaeus, 1758)	Black-bellied plover	M	LC	-	-	1, 7, 8	-	AL
50	<i>Vanellus duvaucellii</i> (Lesson, 1826)	River lapwing	R	NT	-	-	8	-	-
51	<i>Vanellus indicus</i> (Boddaert, 1783)	Red-wattled lapwing	R	LC	-	-	1, 2, 3, 4, 5, 6, 8	-	IFB, RC

Table 1: (Continued).

No.	Species Name	Common Name	Migration status	Status			Data source	Note	Habitats record
				IUCN (2024)	Vietnam's Red Book (2007)	Decree No. 06/2019 and 84/2021			
Glareolidae		Coursers and Pratincoles							
52	<i>Glareola maldivarum</i> Forster, 1795	Oriental pratincole	M	LC	-	-	1, 6, 7, 8	-	TEF
Laridae		Gulls, Terns and Skimmers							
53	<i>Chlidonias hybrida</i> (Pallas, 1811)	Whiskered tern	M	LC	-	-	1, 8	-	-
54	<i>Anous stolidus</i> (Linnaeus, 1758)	Brown noddy	M	LC	-	-	7, 8	-	-
55	<i>Chlidonias leucopterus</i> (Temminck, 1815)	White-winged tern	M	LC	-	-	7, 8	-	-
56	<i>Chroicocephalus brunicephalus</i> (Jerdon, 1840)	Brown-headed gull	M	LC	-	-	8	-	-
57	<i>Chroicocephalus ridibundus</i> (Linnaeus, 1766)	Black-headed gull	M	LC	-	-	6	-	-
58	<i>Gelochelidon nilotica</i> (Gmelin, 1789)	Gull-billed tern	M	LC	-	-	2, 3, 5, 8	-	-
59	<i>Hydroprogne caspia</i> (Pallas, 1770)	Caspian tern	M	LC	-	-	1, 5, 8	-	CMF, AL
60	<i>Onychoprion anaethetus</i> (Scopoli, 1786)	Bridled tern	M	LC	-	-	7, 8	-	-
61	<i>Sterna dougallii</i> Montagu, 1813	Roseate tern	M	LC	-	-	7, 8	-	-
62	<i>Sterna hirundo</i> Linnaeus, 1758	Common tern	M	LC	-	-	6, 7, 8	-	-
63	<i>Sterna sumatrana</i> Raffles, 1822	Black-naped tern	M	LC	-	-	7, 8	-	-
64	<i>Stemula albifrons</i> (Pallas, 1764)	Little tern	M	LC	-	-	1, 3, 4, 5, 8	-	AL
65	<i>Thalasseus bergii</i> (Lichtenstein, 1823)	Great crested tern	M	LC	-	-	6, 7, 8	-	-
Recurvirostridae		Avocets and Stilts							
66	<i>Himantopus himantopus</i> (Linnaeus, 1758)	Black-winged stilt	M	LC	-	-	1, 6, 8	-	AL
Rostratulidae		Painted-snipes							
67	<i>Rostratula benghalensis</i> (Linnaeus, 1758)	Greater painted- snipe	M	LC	-	-	8	-	-
Scolopacidae		Sandpipers and allies							
68	<i>Actitis hypoleucos</i> (Linnaeus, 1758)	Common sandpiper	M	LC	-	-	1, 2, 3, 4, 5, 6, 7, 8	-	TEF, IFB, AL
69	<i>Arenaria interpres</i> (Linnaeus, 1758)	Ruddy turnstone	M	LC	-	-	8	-	-
70	<i>Calidris acuminata</i> (Horsfield, 1821)	Sharp-tailed sandpiper	M	VU	-	-	8	-	-
71	<i>Calidris alba</i> (Pallas, 1764)	Sanderling	M	LC	-	-	1, 8	-	AL
72	<i>Calidris ferruginea</i> (Pontoppidan, 1763)	Curlew sandpiper	M	NT	-	-	1, 6, 8	-	AL
73	<i>Calidris minuta</i> (Leisler, 1812)	Little stint	M	LC	-	-	8	-	-
74	<i>Calidris ruficollis</i> (Pallas, 1776)	Red-necked stint	M	NT	-	-	1, 8	-	CMF, AL
75	<i>Calidris subminuta</i> (Middendorff, 1853)	Long-toed stint	M	LC	-	-	1, 6, 8	-	AL
76	<i>Calidris temminckii</i> (Leisler, 1812)	Temnick's stint	M	LC	-	-	1	New record	AL
77	<i>Gallinago gallinago</i> (Linnaeus, 1758)	Common snipe	M	LC	-	-	2, 3, 4, 5, 8	-	-
78	<i>Gallinago stenura</i> (Bonaparte, 1831)	Pin-tailed snipe	M	LC	-	-	1, 8	-	AL

Table 1: (Continued).

No.	Species Name	Common Name	Migration status	Status			Data source	Note	Habitats record
				IUCN (2024)	Vietnam's Red Book (2007)	Decree No. 06/2019 and 84/2021			
79	<i>Limnodromus semipalmatus</i> (Blyth, 1848)	Asian dowitcher	M	NT	-	-	8	-	-
80	<i>Limosa limosa</i> (Linnaeus, 1758)	Black-tailed godwit	M	NT	-	-	8	--	-
81	<i>Numenius arquata</i> (Linnaeus, 1758)	Eurasian curlew	M	NT	-	-	5	-	-
82	<i>Numenius phaeopus</i> (Linnaeus, 1758)	Whimbrel	M	LC	-	-	1, 5, 6, 7, 8	-	CMF
83	<i>Phalaropus lobatus</i> (Linnaeus, 1758)	Red-necked phalarope	M	LC	-	-	8	-	-
84	<i>Tringa brevipes</i> (Vieillot, 1816)	Gray-tailed tattler	M	NT	-	-	1	New record	CMF
85	<i>Tringa glareola</i> Linnaeus, 1758	Wood sandpiper	M	LC	-	-	1, 6, 8	-	CMF, AL
86	<i>Tringa nebularia</i> (Gunnerus, 1767)	Common greenshank	M	LC	-	-	1, 5, 6, 8	-	CMF, AL
87	<i>Tringa ochropus</i> Linnaeus, 1758	Green sandpiper	M	LC	-	-	8	-	-
88	<i>Tringa stagnatilis</i> (Bechstein, 1803)	Marsh sandpiper	M	LC	-	-	1, 5, 6, 8	-	CMF, AL
89	<i>Tringa tetanus</i> (Linnaeus, 1758)	Common redshank	M	LC	-	-	6, 8	-	-
90	<i>Xenus cinereus</i> (Güldenstädt, 1775)	Terek sandpiper	M	LC	-	-	8	-	-
Turnicidae		Buttonquails							
91	<i>Turnix suscitator</i> (Gmelin, 1789)	Barred buttonquail	R	LC	-	-	1, 4, 5, 6, 8	-	IFB
92	<i>Turnix sylvaticus</i> (Desfontaines, 1789)	Small buttonquail	R	LC	-	-	3, 8	-	-
Ciconiiformes									
Ciconiidae		Storks							
93	<i>Anastomus oscitans</i> (Boddaert, 1783)	Asian openbill	R	LC	VU	-	1, 6, 8	-	CMF
94	<i>Leptoptilos javanicus</i> (Horsfield, 1821)	Lesser adjutant	R	NT	VU	IB	8	-	-
95	<i>Mycteria leucocephala</i> (Pennant, 1769)	Painted stork	R	LC	VU	-	5, 6	-	-
Columbiformes									
Columbidae		Pigeons and Doves							
96	<i>Chalcophaps indica</i> (Linnaeus, 1758)	Asian emerald dove	R	LC	-	-	1, 2, 3, 4, 5, 6, 7, 8	-	TEF
97	<i>Caloenas nicobarica</i> (Linnaeus, 1758)	Nicobar pigeon	R	NT	DD	IB	7, 8	-	-
98	<i>Columba livia</i> Gmelin, 1789	Rock pigeon	R	LC	-	-	5, 7, 8	-	-
99	<i>Columba punicea</i> Blyth, 1842	Pale-capped pigeon	R	VU	EN	IIB	2, 3, 4, 5, 6, 8	-	-
100	<i>Ducula aenea</i> (Linnaeus, 1766)	Green imperial- pigeon	R	NT	-	-	2, 3, 4, 5, 7, 8	-	-
101	<i>Ducula badia</i> (Raffles, 1822)	Mountain imperial- pigeon	R	LC	-	-	8	-	-
102	<i>Ducula bicolor</i> (Scopoli, 1786)	Pied imperial- pigeon	R	LC	-	-	7, 8	-	-
103	<i>Geopelia striata</i> (Linnaeus, 1766)	Zebra dove	R	LC	-	-	1, 4, 5, 6, 8	-	TEF, CMF, RC, IFB, UA, AL
104	<i>Spilopelia chinensis</i> (Scopoli, 1786)	Spotted dove	R	LC	-	-	1, 2, 3, 4, 5, 6, 7, 8	a	TEF, CMF, RC, IFB, AL
105	<i>Streptopelia tranquebarica</i> (Hermann, 1804)	Red-collared dove	R	LC	-	-	1, 2, 3, 4, 5, 6, 8	-	CMF, RC

Table 1: (Continued).

No.	Species Name	Common Name	Migration status	Status			Data source	Note	Habitats record
				IUCN (2024)	Vietnam's Red Book (2007)	Decree No. 06/2019 and 84/2021			
106	<i>Treron bicinctus</i> (Jerdon, 1840)	Orange-breasted green-pigeon	R	LC	-	-	4, 5, 8	-	-
107	<i>Treron curvirostra</i> (Gmelin, 1789)	Thick-billed green-pigeon	M	LC	-	-	1, 2, 3, 4, 5, 8	-	TEF, CMF
108	<i>Treron vernans</i> (Linnaeus, 1771)	Pink-necked green-pigeon	R	LC	-	-	8	-	-
Coraciiformes									
Alcedinidae Kingfishers									
109	<i>Alcedo atthis</i> (Linnaeus, 1758)	Common kingfisher	R	LC	-	-	1, 3, 4, 5, 6, 7, 8	-	CMF, IFB
110	<i>Alcedo meninting</i> Horsfield, 1821	Blue-eared kingfisher	R	LC	-	-	8	-	-
111	<i>Ceryle rudis</i> (Linnaeus, 1758)	Pied kingfisher	R	LC	-	-	1, 4, 5, 6, 8	-	IFB
112	<i>Ceyx erithaca</i> (Linnaeus, 1758)	Black-backed dwarf-kingfisher	M	NT	-	-	4, 8	-	-
113	<i>Halcyon pileate</i> (Boddaert, 1783)	Black-capped kingfisher	M	VU	-	-	4, 5, 6, 8	-	-
114	<i>Halcyon smyrnensis</i> (Linnaeus, 1758)	White-throated kingfisher	R	LC	-	-	1, 2, 3, 4, 5, 6, 8	-	-
115	<i>Pelargopsis capensis</i> (Linnaeus, 1766)	Stork-billed kingfisher	R	LC	-	-	4, 5, 8	-	TEF, CMF, IFB
116	<i>Todiramphus chloris</i> (Boddaert, 1783)	Collared kingfisher	R	LC	-	-	1, 6, 8	-	TEF, IFB, CMF, RC, AL
Coraciidae Rollers									
117	<i>Coracias benghalensis</i> (Linnaeus, 1758)	Indian roller	R	LC	-	-	2, 3, 4, 5	-	-
118	<i>Coracias affinis</i> Horsfield, 1840	Indochinese roller	R	LC	-	-	8	-	-
119	<i>Eurystomus orientalis</i> (Linnaeus, 1766)	Dollarbird	M	LC	-	-	4, 5, 8	-	-
Meropidae Bee-eaters									
120	<i>Merops orientalis</i> Latham, 1801	Asian green bee-eater	M	LC	-	-	1, 2, 3, 4, 5, 8	-	TEF, CMF, RC, IFB
121	<i>Merops leschenaulti</i> Vieillot, 1817	Chestnut-headed bee-eater	M	LC	-	-	2, 3, 4, 5, 6, 8	-	-
122	<i>Merops philippinus</i> Linnaeus, 1766	Blue-tailed bee-eater	M	LC	-	-	1, 5, 6, 8	-	RC, IFB
123	<i>Merops viridis</i> Linnaeus, 1758	Blue-throated bee-eater	M	LC	-	-	4, 5, 6, 8	-	-
124	<i>Nyctornis athertoni</i> (Jardine and Selby, 1828)	Blue-bearded bee-eater	R	LC	-	-	1, 8	-	TEF
Cuculiformes									
Cuculidae Cuckoos									
125	<i>Cacomantis merulinus</i> (Scopoli, 1786)	Plaintive cuckoo	R	LC	-	-	1, 4, 5, 8	-	CMF, IFB, AL
126	<i>Cacomantis sonneratii</i> (Latham, 1790)	Banded bay cuckoo	M	LC	-	-	4, 8	-	-
127	<i>Centropus bengalensis</i> (Gmelin, 1788)	Lesser coucal	R	LC	-	-	1, 2, 3, 4, 5, 8	-	CMF, IFB
128	<i>Centropus sinensis</i> (Stephens, 1815)	Greater coucal	R	LC	-	-	1, 2, 3, 4, 5, 8	-	TEF, IFB, CMF, RC
129	<i>Chrysococcyx xanthorhynchus</i> (Horsfield, 1821)	Violet cuckoo	M	LC	-	-	8	-	-
130	<i>Clamator coromandus</i> (Linnaeus, 1766)	Chestnut-winged cuckoo	M	LC	-	-	4, 5, 8	-	-
131	<i>Cuculus micropterus</i> Gould, 1838	Indian cuckoo	M	LC	-	-	2, 3, 5, 8	-	-
132	<i>Eudynamis scolopacea</i> (Linnaeus, 1758)	Asian koel	M	LC	-	-	2, 3, 4, 5, 7, 8	-	-
133	<i>Hierococcyx nasicolor</i> (Blyth, 1843)	Hodgson's hawk-cuckoo	M	LC	-	-	4	-	-

Table 1: (Continued).

No.	Species Name	Common Name	Migration status	Status			Data source	Note	Habitats record
				IUCN (2024)	Vietnam's Red Book (2007)	Decree No. 06/2019 and 84/2021			
134	<i>Hierococcyx sparverioides</i> (Vigors, 1832)	Large hawk- cuckoo	M	LC	-	-	8	-	-
135	<i>Phaenicophaeus tristis</i> (Lesson, 1830)	Green-billed malkoha	R	LC	-	-	1, 3, 4, 5, 7, 8	-	TEF, CMF, IFB
136	<i>Surniculus lugubris</i> (Horsfield, 1821)	Square-tailed drongo-cuckoo	R	LC	-	-	8	-	-
Falconiformes									
Falconidae		Falcons							
137	<i>Falco peregrinus</i> Tunstall, 1771	Peregrine falcon	M	LC	-	IIB	1, 4, 5, 6, 8	-	TEF
138	<i>Falco tinnunculus</i> Linnaeus, 1758	Common kestrel	M	LC	-	IIB	7, 8	-	-
139	<i>Microhierax caerulescens</i> (Linnaeus, 1758)	Collared falconet	R	LC	-	IIB	2, 3, 5	-	-
Galliformes									
Phasianidae		Pheasants and Partridges							
140	<i>Coturnix coromandelica</i> (Gmelin, 1789)	Rain quail	R	LC	-	-	1, 8	-	TEF
141	<i>Excalfactoria chinensis</i> (Linnaeus, 1766)	Blue-breasted quail	R	LC	-	-	8	-	-
142	<i>Francolinus pintadeanus</i> (Scopoli, 1786)	Chinese francolin	R	LC	-	-	2, 3, 5	-	-
143	<i>Gallus gallus</i> (Linnaeus, 1758)	Red junglefowl	R	LC	-	-	1, 2, 3, 4, 5, 7, 8	-	TEF, RC
144	<i>Lophura diardi</i> (Bonaparte, 1856)	Siamese fireback	R	LC	VU	IIB	2, 3, 4, 5, 8	-	-
145	<i>Lophura nycthemera</i> (Linnaeus, 1758)	Silver pheasant	R	LC	LR	IB	2, 3, 5	-	-
146	<i>Tropicoperdix chloropus</i> (Blyth, 1859)	Scarly-breasted partridge	R	LC	LR	IIB	1, 2, 3, 5, 8	a	TEF
Gruiformes									
Rallidae		Rails, Gallinules and Coots							
147	<i>Gallinula chloropus</i> (Linnaeus, 1758)	Eurasian moorhen	R	LC	-	-	1, 4, 5, 8	-	IFB
148	<i>Amaurornis phoenicurus</i> (Pennant, 1769)	White-breasted waterhen	R	LC	-	-	2, 3, 4, 5, 6, 7, 8	-	-
149	<i>Gallinix cinerea</i> (Gmelin, 1789)	Watercock	R	LC	-	-	8	-	-
150	<i>Lewinia striata</i> (Linnaeus, 1766)	Slaty-breasted rail	R	LC	-	-	1, 2, 3, 5, 8	a	IFB
151	<i>Poliolimnas cinereus</i> (Vieillot, 1819)	White-browed crane	R	LC	-	-	1, 6, 8	-	IFB
152	<i>Porphyrio poliocephalus</i> (Latham, 1801)	Grey-headed swampphen	R	LC	-	-	8	-	-
153	<i>Porphyrio porphyrio</i> (Linnaeus, 1758)	Purple swampphen	R	LC	-	-	6	-	-
154	<i>Zapornia fusca</i> (Linnaeus, 1766)	Ruddy-breasted crane	M	LC	-	-	8	-	-
Passeriformes									
Acanthizidae		Thornbills							
155	<i>Gerygone sulphurea</i> Wallace, 1864	Golden-bellied gerygone	R	LC	-	-	1, 5, 6, 8	-	CMF, RC, IFB
Acrocephalidae		Reed-warblers							
156	<i>Acrocephalus bistrigiceps</i> Swinhoe, 1860	Black-browed reed warbler	M	LC	-	-	1, 8	-	IFB
157	<i>Acrocephalus orientalis</i> (Temminck and Schlegel, 1847)	Oriental reed- warbler	M	LC	-	-	8	-	-
158	<i>Acrocephalus stentoreus</i> (Hemprich and Ehrenberg, 1833)	Clamorous reed-warbler	M	LC	-	-	8	-	-

Table 1: (Continued).

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				IUCN (2024)	Vietnam's Red Book (2007)	Decree No. 06/2019 and 84/2021			
159	<i>Arundinax aedon</i> (Pallas, 1776)	Thick-billed warbler	M	LC	-	-	8	-	-
Aegithinidae		Long-tailed Tits							
160	<i>Aegithina lafresnayei</i> (Hartlaub, 1844)	Great iora	R	LC	-	-	1, 4, 5, 8	-	TEF
161	<i>Aegithina tiphia</i> (Linnaeus, 1758)	Common iora	R	LC	-	-	1, 4, 5, 7, 8	-	TEF, CMF, RC, UA, IFB
Alaudidae		Larks							
162	<i>Alauda gulgula</i> Franklin, 1831	Oriental skylark	M	LC	-	-	1, 4	-	TEF, IFB
163	<i>Mirafra erythrocephala</i> (Salvadori and Giglioli, 1885)	Indochinese bushlark	R	LC	-	-	1, 4, 5, 6, 8	-	IFB
Artamidae		Woodswallow							
164	<i>Artamus fuscus</i> Vieillot, 1817	Ashy woodswallow	M	LC	-	-	4, 5, 8	-	-
Campephagidae		Cuckooshrikes							
165	<i>Coracina macei</i> (Lesson, 1831)	Large cuckooshrike	R	LC	-	-	4, 5, 8	a	-
166	<i>Lalage melaschistos</i> (Hodgson, 1836)	Black-winged cuckooshrike	M	LC	-	-	8	-	-
167	<i>Lalage polioptera</i> (Sharpe, 1878)	Indochinese cuckooshrike	R	LC	-	-	4	a	-
168	<i>Pericrocotus cinnamomeus</i> (Linnaeus, 1766)	Small minivet	R	LC	-	-	7, 8	-	-
169	<i>Pericrocotus divaricatus</i> (Raffles, 1822)	Ashy minivet	M	LC	-	-	8	-	-
170	<i>Pericrocotus speciosus</i> (Latham, 1790)	Scarlet minivet	R	LC	-	-	2, 3, 5, 8	-	-
Chloropseidae		Leafbirds							
171	<i>Chloropsis moluccensis</i> Gray, 1831	Blue-winged leafbird	R	LC	-	-	1, 2, 3, 4, 5, 8	-	TEF
172	<i>Chloropsis aurifrons</i> (Temminck, 1829)	Golden-fronted leafbird	R	LC	-	-	4	-	-
Cisticolidae		Cisticolas and Allies							
173	<i>Cisticola juncidis</i> (Rafinesque, 1810)	Zitting cisticola	R	LC	-	-	1, 2, 3, 5, 8	-	TEF, IFB, AL
174	<i>Cisticola exilis</i> (Vigors and Horsfield, 1827)	Golden-headed cisticola	R	LC	-	-	8	-	-
175	<i>Orthotomus atrogularis</i> Temminck, 1836	Dark-necked tailorbird	R	LC	-	-	1, 3, 4, 5, 7, 8	-	TEF
176	<i>Orthotomus ruficeps</i> (Lesson, 1830)	Ashy tailorbird	R	LC	-	-	1, 5, 8	-	CMF
177	<i>Orthotomus sutorius</i> (Pennant, 1769)	Common tailorbird	R	LC	-	-	1, 4, 5, 6, 7, 8	-	TEF, CMF, AL, IFB
178	<i>Prinia flaviventris</i> (Delessert, 1840)	Yellow-bellied prinia	R	LC	-	-	1, 6, 8	-	TEF
179	<i>Prinia hodgsonii</i> Blyth, 1844	Grey-breasted prinia	R	LC	-	-	8	-	-
180	<i>Prinia inornata</i> Sykes, 1832	Plain prinia	R	LC	-	-	1, 4, 5, 6, 7, 8	-	CMF, IFB, AL
181	<i>Prinia polychroa</i> (Temminck, 1828)	Brown prinia	R	LC	-	-	4	-	-
182	<i>Prinia rufescens</i> Blyth, 1847	Rufescent Prinia	R	LC	-	-	4, 5	-	-
183	<i>Prinia superciliaris</i> (Anderson, 1871)	Hill prinia	R	LC	-	-	2, 3, 5	a	-
Corvidae		Cows and Jays							
184	<i>Corvus macrorhynchos</i> Wagler, 1827	Large-billed crow	R	LC	-	-	1, 4, 5, 8	a	CMF, IFB
185	<i>Corvus splendens</i> Vieillot, 1817	House crow	M	LC	-	-	8	-	-

Table 1: (Continued).

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				IUCN (2024)	Vietnam's Red Book (2007)	Decree No. 06/2019 and 84/2021			
186	<i>Crypsirina temia</i> (Daudin, 1800)	Racket-tailed treepie	R	LC	-	-	1, 4, 5, 6, 8	-	TEF, CMF
187	<i>Dendrocitta vagabunda</i> (Latham, 1790)	Rufous treepie	R	LC	-	-	4, 5, 8	-	-
188	<i>Urocissa erythroryncha</i> (Boddaert, 1783)	Red-billed blue magpie	R	LC	-	-	3, 4, 5	-	-
Dicaeidae		Flowerpeckers							
189	<i>Dicaeum cruentatum</i> (Linnaeus, 1758)	Scarlet-backed flowerpecker	R	LC	-	-	1, 2, 3, 8	-	TEF, CMF, RC, IFB, AL
190	<i>Dicaeum agile</i> (Tickell, 1833)	Thick-billed flowerpecker	R	LC	-	-	4, 8	-	-
191	<i>Dicaeum chrysorrheum</i> Temminck, 1829	Yellow-vented flowerpecker	R	LC	-	-	3, 4, 5, 6	-	-
192	<i>Dicaeum minullum</i> (Swinhoe, 1870)	Plain flowerpecker	R	LC	-	-	3, 5	a	-
Dicruridae		Drongos							
193	<i>Dicrurus leucophaeus</i> Vieillot, 1817	Ashy drongo	R	LC	-	-	1, 4, 5, 8	-	TEF
194	<i>Dicrurus aeneus</i> Vieillot, 1817	Bronzed drongo	R	LC	-	-	3, 4, 5, 8	-	-
195	<i>Dicrurus hottentottus</i> (Linnaeus, 1766)	Hair-crested drongo	R	LC	-	-	4, 5, 8	-	-
196	<i>Dicrurus macrocercus</i> Vieillot, 1817	Black drongo	R	LC	-	-	1, 3, 4, 5, 6, 8	-	TEF
197	<i>Dicrurus paradiseus</i> (Linnaeus, 1766)	Greater racket-tailed drongo	R	LC	-	-	1, 4, 5, 7, 8	-	TEF, IFB
198	<i>Dicrurus remifer</i> (Temminck, 1823)	Lesser racket-tailed drongo	R	LC	-	-	2, 3, 5	-	-
Emberizidae		Buntings							
199	<i>Emberiza aureola</i> Pallas, 1773	Yellow-breasted bunting	M	CR	-	IIB	8	-	-
Estrildidae		Waxbills and Allies							
200	<i>Lonchura maja</i> (Linnaeus, 1766)	White-headed munia	R	LC	-	-	1, 6, 8	-	IFB
201	<i>Amandava amandava</i> (Linnaeus, 1758)	Red avadavat	R	LC	-	-	8	-	-
202	<i>Lonchura atricapilla</i> (Vieillot, 1807)	Southern black-headed munia	R	LC	-	-	8	-	-
203	<i>Lonchura punctulata</i> (Linnaeus, 1758)	Scaly-breasted munia	R	LC	-	-	1, 3, 4, 5, 6, 7, 8	-	TEF, CMF, RC, IFB, UA, AL
204	<i>Lonchura striata</i> (Linnaeus, 1766)	White-rumped munia	R	LC	-	-	1, 3, 4, 5, 7, 8	-	TEF
Eurylaimidae		Typical Broadbills							
205	<i>Eurylaimus javanicus</i> Horsfield, 1821	Banded broadbill	R	LC	-	-	8	-	-
Fringillidae		Finches							
206	<i>Chloris sinica</i> (Linnaeus, 1766)	Oriental greenfinch	M	LC	-	-	5	-	-
Hirundinidae		Swallows and Martins							
207	<i>Hirundo rustica</i> Linnaeus, 1758	Barn swallow	M	LC	-	-	1, 3, 4, 5, 6, 7, 8	-	CMF, IFB, AL
208	<i>Cecropis daurica</i> (Laxmann, 1769)	Red-rumped swallow	M	LC	-	-	4, 8	a	-
209	<i>Cecropis striolata</i> (Schlegel, 1844)	Striated swallow	M	LC	-	-	8	-	-
210	<i>Delichon dasypus</i> (Bonaparte, 1850)	Asian house-martin	M	LC	-	-	8	-	-
211	<i>Hirundo tahitica</i> Gmelin, 1789	Pacific swallow	R	LC	-	-	8	-	-
212	<i>Riparia riparia</i> (Linnaeus, 1758)	Sand martin	M	LC	-	-	8	-	-

Table 1: (Continued).

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				IUCN (2024)	Vietnam's Red Book (2007)	Decree No. 06/2019 and 84/2021			
Irenidae		Fairy- bluebirds							
213	<i>Irena puella</i> (Latham, 1790)	Asian fairy- bluebird	R	LC	-	-	3, 4, 5, 8	-	-
Laniidae		Shrikes							
214	<i>Lanius collurioides</i> Lesson, 1832	Burmese shrike	M	LC	-	-	1, 3, 4, 5, 6, 8	-	CMF, TEF, RC, AL
215	<i>Lanius cristatus</i> Linnaeus, 1758	Brown shrike	M	LC	-	-	4, 5, 6, 8	-	-
216	<i>Lanius tigrinus</i> Drapiez, 1828	Tiger shrike	M	LC	-	-	8	-	-
Leiothrichidae		Grassbirds and Allies							
217	<i>Garrulax leucolophus</i> (Hardwicke, 1815)	White-crested laughingthrush	R	LC	-	IIB	1, 2, 3, 4, 5, 6	-	TEF, IFB
218	<i>Garrulax monileger</i> (Hodgson, 1836)	Lesser necklaced laughingthrush	R	LC	-	IIB	8	-	-
219	<i>Pterorhinus pectoralis</i> (Gould, 1836)	Greater necklaced laughingthrush	R	LC	-	IIB	1	New record	TEF
Locustellidae		Grassbirds and Allies							
220	<i>Locustella lanceolata</i> (Temminck, 1840)	Lanceolated warbler	M	LC	-	-	8	-	-
221	<i>Helopsaltes certhiola</i> (Pallas, 1811)	Pallas's grasshopper-warbler	M	LC	-	-	8	-	-
Monarchidae		Monarch- flycatchers							
222	<i>Terpsiphone incei</i> (Gould, 1852)	Amur paradise-flycatcher	M	LC	-	-	1, 4, 5, 8	a	TEF
223	<i>Hypothymis azurea</i> (Boddaert, 1783)	Black-naped monarch	M	LC	-	-	2, 3, 4, 5, 8	-	-
224	<i>Terpsiphone affinis</i> (Blyth, 1846)	Blyth's paradise- flycatcher	M	LC	-	-	8	-	-
Motacillidae		Pipits and Wagtails							
225	<i>Anthus rufulus</i> Vieillot, 1818	Paddyfield pipit	R	LC	-	-	1, 6, 8	-	IFB, RC, UA, AL
226	<i>Anthus cervinus</i> (Pallas, 1811)	Red-throated pipit	M	LC	-	-	8	-	-
227	<i>Anthus hodgsoni</i> Richmond, 1907	Olive-backed pipit	M	LC	-	-	7, 8	-	-
228	<i>Anthus richardi</i> Vieillot, 1818	Richard's pipit	M	LC	-	-	3, 4, 5, 8	a	-
229	<i>Dendronanthus indicus</i> (Gmelin, 1789)	Forest wagtail	M	LC	-	-	7, 8	-	-
230	<i>Motacilla alba</i> Linnaeus, 1758	White wagtail	M	LC	-	-	8	-	-
231	<i>Motacilla cinerea</i> Tunstall, 1771	Grey wagtail	M	LC	-	-	2, 3, 5, 7, 8	-	-
232	<i>Motacilla flava</i> Linnaeus, 1758	Western yellow wagtail	M	LC	-	-	1, 2, 3, 4	-	AL
233	<i>Motacilla tschutschensis</i> Gmelin, 1789	Eastern yellow wagtail	M	LC	-	-	6, 7, 8	-	-
Muscicapidae		Old World Flycatchers and Chats							
234	<i>Cyornis sumatrensis</i> (Sharpe, 1879)	Indochinese blue flycatcher	R	LC	-	-	1, 4, 5	-	TEF
235	<i>Calliope calliope</i> (Pallas, 1776)	Siberian rubythroat	M	LC	-	-	8	-	-
236	<i>Copsychus malabaricus</i> (Scopoli, 1786)	White-rumped shama	R	LC	-	-	2, 3, 4, 5, 7, 8	-	-
237	<i>Copsychus saularis</i> (Linnaeus, 1758)	Oriental magpie-robin	R	LC	-	-	2, 3, 4, 5, 8	-	-
238	<i>Cyornis hainanus</i> (Ogilvie- Grant, 1900)	Hainan blue- flycatcher	R	LC	-	-	4, 5, 8	-	-
239	<i>Eumyias thalassinus</i> (Swainson, 1838)	Verditer flycatcher	R	LC	-	-	1, 2, 3, 5, 8	a	TEF

Table 1: (Continued).

No.	Species Name	Common Name	Migration status	Status			Data source	Note	Habitats record
				IUCN (2024)	Vietnam's Red Book (2007)	Decree No. 06/2019 and 84/2021			
240	<i>Ficedula albicilla</i> (Pallas, 1811)	Taiga flycatcher	R	LC	-	-	2, 3, 5, 8	a	-
241	<i>Ficedula mugimaki</i> (Temminck, 1836)	Mugimaki flycatcher	M	LC	-	-	6, 8	-	-
242	<i>Ficedula narcissina</i> (Temminck, 1836)	Narcissus flycatcher	R	LC	-	-	8	-	-
243	<i>Ficedula zanthopygia</i> (Hay, 1845)	Yellow-rumped flycatcher	R	LC	-	-	7, 8	-	-
244	<i>Larivora cyane</i> (Pallas, 1776)	Siberian blue robin	M	LC	-	-	8	-	-
245	<i>Larivora sibilans</i> (Swinhoe, 1863)	Rufous-tailed robin	M	LC	-	-	3, 4, 5	a	-
246	<i>Luscinia svecica</i> (Linnaeus, 1758)	Bluethroat	M	LC	-	-	8	-	-
247	<i>Monticola gularis</i> (Swinhoe, 1863)	White-throated rock-thrush	R	LC	-	-	4, 5	-	-
248	<i>Monticola solitarius</i> (Linnaeus, 1758)	Blue Rock- Thrush	M	LC	-	-	4, 5, 6, 8	-	-
249	<i>Muscicapa dauurica</i> Pallas, 1811	Asian brown flycatcher	R	LC	-	-	1, 3, 4, 5, 6, 7, 8	-	TEF, CMF
250	<i>Muscicapa sibirica</i> Gmelin, 1789	Dark-sided flycatcher	R	LC	-	-	1, 5, 8	-	TEF
251	<i>Myophonus caeruleus</i> (Scopoli, 1786)	Blue whistling- thrush	R	LC	-	-	4	-	-
252	<i>Saxicola caprata</i> (Linnaeus, 1766)	Pied bushchat	R	LC	-	-	1, 3, 4, 5, 8	-	IFB
253	<i>Saxicola ferreus</i> J.E. Gray and G.R. Gray, 1847	Grey bushchat	R	LC	-	-	6, 8	-	-
254	<i>Saxicola stejnegeri</i> (Parrot, 1908)	Amur stonechat	R	LC	-	-	3, 6, 8	-	-
Nectariniidae		Sunbirds							
255	<i>Aethopyga siparaja</i> (Raffles, 1822)	Crimson sunbird	R	LC	-	-	1, 3, 4, 5, 8	-	TEF
256	<i>Anthreptes malacensis</i> (Scopoli, 1786)	Brown-throated sunbird	R	LC	-	-	1, 8	-	TEF, IFB
257	<i>Arachnothera longirostra</i> (Latham, 1790)	Little spiderhunter	R	LC	-	-	2, 3, 5	-	-
258	<i>Chalcoparia singalensis</i> (Gmelin, 1789)	Ruby-cheeked sunbird	R	LC	-	-	4, 8	a	-
259	<i>Cinnyris ornatus</i> Linnaeus, 1827	Ornate sunbird	R	LC	-	-	1, 4, 5, 6	a	TEF, CMF, IFB, UA
260	<i>Leptocoma brasiliana</i> (Gmelin, 1788)	Van hasselt's sunbird	R	LC	-	-	1, 4, 5, 8	-	TEF
Oriolidae		Old World Orioles							
261	<i>Oriolus chinensis</i> Linnaeus, 1766	Black-naped oriole	R	LC	-	-	4, 5, 6, 8	-	-
262	<i>Oriolus xanthornus</i> (Linnaeus, 1758)	Black-hooded oriole	R	LC	-	-	2, 3, 4, 5, 6, 8	-	-
Pachycephalidae		Whistlers							
263	<i>Pachycephala cinerea</i> (Blyth, 1847)	Mangrove whistler	R	LC	-	-	1, 7, 8	a	CMF
Paridae		Tits							
264	<i>Parus major</i> (Linnaeus, 1758)	Great tit	R	LC	-	-	3, 5, 8	-	-
Passeridae		Old World Sparrows							
265	<i>Passer domesticus</i> (Linnaeus 1758)	House sparrow	R	LC	-	-	1, 8	-	CMF, IFB, UA
266	<i>Passer flaveolus</i> Blyth, 1845	Plain-backed sparrow	R	LC	-	-	1, 4, 5, 8	-	IFB
267	<i>Passer montanus</i> (Linnaeus, 1758)	Eurasian tree sparrow	R	LC	-	-	1, 2, 3, 4, 5, 6, 7, 8	-	CMF, RC, IFB, UA, AL

Table 1: (Continued).

No.	Species Name	Common Name	Migration status	Status			Data source	Note	Habitats record
				IUCN (2024)	Vietnam's Red Book (2007)	Decree No. 06/2019 and 84/2021			
Pellorneidae		Ground Babblers							
268	<i>Malacopteron cinereum</i> Eyton, 1839	Scaly-crowned babbler	R	LC	-	-	8	-	-
269	<i>Pellorneum ruficeps</i> Swainson, 1832	Puff-throated babbler	R	LC	-	-	8	-	-
Phylloscopidae		Leaf-warblers							
270	<i>Phylloscopus inornatus</i> (Blyth, 1842)	Yellow-browed warbler	R	LC	-	-	1, 3, 4, 5, 6, 7, 8	-	IFB, TEF
271	<i>Phylloscopus borealis</i> (Blasius, 1858)	Arctic warbler	M	LC	-	-	7, 8	-	-
272	<i>Phylloscopus fuscatus</i> (Blyth, 1842)	Dusky warbler	M	LC	-	-	3, 5, 6, 8	-	-
273	<i>Phylloscopus plumbeitarsus</i> Swinhoe, 1861	Grey-legged leaf-warbler	M	LC	-	-	8	-	-
274	<i>Phylloscopus schwarzi</i> (Radde, 1863)	Radde's warbler	M	LC	-	-	8	-	-
275	<i>Phylloscopus tenellipes</i> Swinhoe, 1860	Pale-legged leaf-warbler	M	LC	-	-	8	-	-
Pittidae		Pittas							
276	<i>Pitta moluccensis</i> (Müller, 1776)	Blue-winged pitta	M	LC	-	IIB	1, 5, 6, 8	-	TEF
277	<i>Hydromis soror</i> (Wardlaw- Ramsay, 1881)	Blue-rumped pitta	R	LC	-	IIB	8	-	-
Ploceidae		Weavers							
278	<i>Ploceus manyar</i> (Horsfield, 1821)	Streaked weaver	R	LC	-	-	1, 8	-	IFB, UA
279	<i>Ploceus philippinus</i> (Linnaeus, 1766)	Baya weaver	R	LC	-	-	1, 8	-	CMF, IFB
Pycnonotidae		Bulbuls							
280	<i>Pycnonotus aurigaster</i> (Vieillot, 1818)	Sooty-headed bulbul	R	LC	-	-	1, 4, 5, 6, 8	-	IFB, AL
281	<i>Alophoixus ochraceus</i> (Moore, 1854)	Ochraceous bulbul	R	LC	-	-	6, 8	-	-
282	<i>Alophoixus pallidus</i> (Swinhoe, 1870)	Puff-throated bulbul	R	LC	-	-	3, 4, 5	-	-
283	<i>Brachypodius melanocephalus</i> (Gmelin, 1788)	Black-headed bulbul	R	LC	-	-	3, 4, 5	a	-
284	<i>Iole propinqua</i> (Oustalet, 1903)	Grey-eyed bulbul	R	LC	-	-	3, 4, 5	-	-
285	<i>Pycnonotus conradi</i> (Finsch, 1873)	Streak-eared bulbul	R	LC	-	-	1, 4, 5, 6, 8	a	TEF, CMF, RC, IFB, AL
286	<i>Pycnonotus finlaysoni</i> (Strickland, 1844)	Stripe-throated bulbul	R	LC	-	-	1, 4, 5, 6, 7, 8	-	TEF
287	<i>Pycnonotus goiavier</i> (Scopoli, 1786)	Yellow-vented bulbul	R	LC	-	-	1, 4, 5, 6, 7, 8	-	CMF, RC, IFB, UA
288	<i>Pycnonotus jocosus</i> (Linnaeus, 1758)	Red-whiskered bulbul	R	LC	-	-	1, 2, 3, 5	-	TEF
289	<i>Rubigula flaviventris</i> (Tickell, 1833)	Black-crested bulbul	R	LC	-	-	1, 4, 5, 8	a	TEF
Rhipiduridae		Fantails							
290	<i>Rhipidura javanica</i> (Sparman, 1788)	Malaysian pied fantail	R	LC	-	-	1, 5, 6, 8	-	CMF, IFB
291	<i>Rhipidura albicollis</i> (Vieillot, 1818)	White-throated fantail	R	LC	-	-	3, 5	-	-
Sittidae		Nuthatches							
292	<i>Sitta frontalis</i> Swainson, 1820	Velvet-fronted nuthatch	R	LC	-	-	4	-	-
Sturnidae		Starlings							
293	<i>Acridotheres tristis</i> (Linnaeus, 1766)	Common myna	R	LC	-	-	1, 4, 5, 8	-	UA, IFB
294	<i>Acridotheres cristatellus</i> (Linnaeus, 1766)	Crested myna	R	LC	-	-	2, 3, 4, 5	-	-

Table 1: (Continued).

No.	Species Name	Common Name	Migration status	Status			Data source	Note	Habitats record
				IUCN (2024)	Vietnam's Red Book (2007)	Decree No. 06/2019 and 84/2021			
295	<i>Acridotheres grandis</i> Moore, 1858	White-vented myna	R	LC	-	-	7, 8	-	-
296	<i>Acridotheres leucocephalus</i> Giglioli; Salvadori, 1870	Vinous-breasted starling	R	LC	-	-	4, 5, 8	a	-
297	<i>Ampeliceps coronatus</i> (Blyth, 1842)	Golden-crested myna	R	LC	-	-	8	-	-
298	<i>Aplonis panayensis</i> (Scopoli, 1786)	Asian glossy starling	R	LC	-	-	7	-	-
299	<i>Gracula religiosa</i> Linnaeus, 1758	Common hill myna	R	LC	-	-	2, 3, 5	-	-
300	<i>Gracupica nigricollis</i> (Paykull, 1807)	Black-collared starling	R	LC	-	-	1, 2, 3, 4, 5, 8	a	IFB
301	<i>Spodiopsar sericeus</i> (Gmelin, 1789)	Red-billed starling	R	LC	-	-	8	-	-
302	<i>Sturnia malabarica</i> (Gmelin, 1789)	Chestnut-tailed starling	R	LC	-	-	1, 8	-	TEF
303	<i>Sturnia sinensis</i> (Gmelin, 1788)	White-shouldered starling	M	LC	-	-	4, 5, 6, 8	-	-
Vangidae		Vangas and Allies							
304	<i>Tephrodornis Pondicerianus</i> (Gmelin, 1789)	Common woodshrike	R	LC	-	-	8	-	-
305	<i>Tephrodornis virgatus</i> (Temminck, 1824)	Large woodshrike	R	LC	-	-	8	-	-
306	<i>Hemipus picatus</i> (Sykes, 1832)	Bar-winged flycatcher-shrike	R	LC	-	-	3, 4, 5, 8	-	-
Timaliidae		Scimitar-babblers and allies							
307	<i>Mixornis gularis</i> (Horsfield, 1822)	Pin-striped tit-babbler	R	LC	-	-	1, 3, 4, 5, 7, 8	-	TEF
308	<i>Erythrogonys hypoleucos</i> (Blyth, 1844)	Large scimitar-babbler	R	LC	-	-	1, 3, 5, 8	a	TEF
309	<i>Garrulax monileger</i> (Hodgson, 1836)	Lesser necklaced laughingthrush	R	LC	-	-	4, 5, 6, 8	-	-
310	<i>Malacocincla abbotti</i> Blyth, 1845	Abbott's babbler	R	LC	-	-	4	-	-
311	<i>Malacopteron cinereum</i> Eyton, 1839	Scaly-crowned babbler	R	LC	-	-	4, 5, 8	-	-
312	<i>Mixornis kelleyi</i> Delacour, 1932	Gray-faced tit-babbler	R	LC	-	-	3, 4, 5	a	-
313	<i>Pellorneum ruficeps</i> Swainson, 1832	Puff-throated babbler	R	LC	-	-	3, 4, 5, 8	-	-
314	<i>Pterorhinus chinensis</i> (Scopoli, 1786)	Black-throated laughingthrush	R	LC	-	-	2, 3, 5	a	-
315	<i>Stachyris nigriceps</i> Blyth, 1844	Gray-throated Babbler	R	LC	-	-	3, 5	-	-
316	<i>Timalia pileata</i> Horsfield, 1821	Chestnut-capped babbler	R	LC	-	-	1, 8	-	TEF
Vireonidae		Vireos							
317	<i>Erpomis zantholeuca</i> Blyth, 1844	White-bellied erpomis	R	LC	-	-	4	a	-
Turdidae		Thrushes and Allies							
318	<i>Geokichla sibirica</i> (Pallas, 1776)	Siberian thrush	M	LC	-	-	8	-	-
Turnidae		Thrushes							
319	<i>Turdus mandarinus</i> Bonaparte, 1850	Chinese blackbird	M	LC	-	-	7	-	-
Zosteropidae		White-eyes and Yuhinas							
320	<i>Zosterops palpebrosus</i> (Temminck, 1824)	Indian white-eye	R	LC	-	-	1, 3, 4, 5, 7, 8	-	CMF, RC, UA
321	<i>Zosterops simplex</i> Swinhoe, 1861	Swinhoe's white-eye	R	LC	-	-	7, 8	-	-

Table 1: (Continued).

No.	Species Name	Common Name	Migration status	Status			Data source	Note	Habitats record
				IUCN (2024)	Vietnam's Red Book (2007)	Decree No. 06/2019 and 84/2021			
Pelecaniformes									
Anhingidae Darters									
322	<i>Anhinga melanogaster</i> Pennant, 1769	Oriental darter	R	NT	VU	IB	1, 4, 5, 8	-	CMF, IFB
Ardeidae Hérons									
323	<i>Ardea alba</i> Linnaeus, 1758	Great egret	M	LC	-	-	1, 5, 6, 7, 8	-	CMF, IFB, AL
324	<i>Ardea cinerea</i> Linnaeus, 1758	Grey heron	M	LC	-	-	1, 4, 5, 6, 7, 8	-	AL
325	<i>Ardea intermedia</i> Wagler, 1829	Intermediate egret	M	LC	-	-	1, 2, 3, 4, 6, 7, 8	a	AL
326	<i>Ardea purpurea</i> Linnaeus, 1766	Purple heron	M	LC	-	-	3, 4, 5, 8	-	-
327	<i>Ardeola bacchus</i> (Bonaparte, 1855)	Chinese pond- heron	M	LC	-	-	1, 2, 3, 4, 5, 6, 7, 8	-	CMF, IFB, TEF, AL
328	<i>Ardeola speciosa</i> (Horsfield, 1821)	Javan pond- heron	M	LC	-	-	1, 7, 8	-	CMF
329	<i>Bubulcus coromandus</i> (Boddaert, 1783)	Eastern cattle egret	R	LC	-	-	1, 3, 4, 5, 6, 7, 8	-	IFB
330	<i>Butorides striata</i> (Linnaeus, 1758)	Striated heron	R	LC	-	-	1, 5, 7, 8	-	CMF, IFB, AL
331	<i>Egretta eulophotes</i> (Swinhoe, 1860)	Chinese egret	M	LC	-	-	1	New record	CMF
332	<i>Egretta garzetta</i> (Linnaeus, 1766)	Little egret	M	LC	-	-	1, 2, 3, 4, 5, 6, 7, 8	-	CMF, IFB, AL
333	<i>Egretta sacra</i> (Gmelin, 1789)	Pacific reef- egret	M	LC	-	-	4, 5, 6, 7, 8	-	-
334	<i>Ixobrychus cinnamomeus</i> (Gmelin, 1789)	Cinnamon bittern	M	LC	-	-	1, 2, 3, 4, 5, 6, 8	-	IFB, CMF
335	<i>Ixobrychus sinensis</i> (Gmelin, 1789)	Yellow bittern	M	LC	-	-	1, 5, 7, 8	-	IFB, CMF
336	<i>Nycticorax nycticorax</i> (Linnaeus, 1758)	Black-crowned night heron	M	LC	-	-	1, 4, 5, 6, 8	-	CMF, RC, IFB, AL
Phalacrocoracidae Cormorants									
337	<i>Microcarbo niger</i> (Vieillot, 1817)	Little cormorant	R	LC	-	-	1, 4, 5, 8	a	CMF, RC, IFB, AL
338	<i>Phalacrocorax fuscicollis</i> Stephens, 1826	Indian cormorant	R	LC	-	-	1, 8	-	AL
339	<i>Phalacrocorax carbo</i> (Linnaeus, 1758)	Great cormorant	M	LC	EN	-	8	-	-
Threskiornithidae Ibises and Spoonbills									
340	<i>Threskiornis melanocephalus</i> (Latham, 1790)	Black-headed ibis	M	NT	VU	IIB	8	-	-
341	<i>Plegadis falcinellus</i> (Linnaeus, 1766)	Glossy Ibis	M	LC	-	-	8	-	-
Piciformes									
Megalaimidae Asian Barbets									
342	<i>Psilopogon faiostriatus</i> (Temminck, 1832)	Green-eared barbet	R	LC	-	-	1, 2, 3, 4, 5, 8	a	TEF
343	<i>Psilopogon auricularis</i> (Robinson and Kloss, 1919)	Necklaced barbet	R	LC	-	-	1	New record	IFB, AL
344	<i>Psilopogon cyanotis</i> (Blyth, 1847)	Necklaced barbet	R	LC	-	-	4, 5	a	-
345	<i>Psilopogon haemacephalus</i> (Muller, 1776)	Coppersmith barbet	R	LC	-	-	1, 4, 5, 8	a	TEF, CMF
346	<i>Psilopogon lagrandieri</i> (Verreaux, 1868)	Red-vented barbet	R	LC	-	-	4, 6	a	-
347	<i>Psilopogon lineatus</i> (Vieillot, 1816)	Lineated barbet	R	LC	-	-	1, 4, 5, 8	a	TEF, AL
Picidae Woodpeckers									
348	<i>Picus vittatus</i> Vieillot, 1818	Laced woodpecker	R	LC	-	-	1, 4, 5, 6, 8	-	CMF

Table 1: (Continued).

No.	Species Name	Common Name	Migration status	Status			Data source	Note	Habitats record
				IUCN (2024)	Vietnam's Red Book (2007)	Decree No. 06/2019 and 84/2021			
349	<i>Blythipicus pyrrhotis</i> (Hodgson, 1837)	Bay woodpecker	R	LC	-	-	3, 5	-	-
350	<i>Chrysocolaptes guttacristatus</i> (Tickell, 1833)	Greater flameback	R	LC	-	-	2, 3, 4, 5, 8	a	-
351	<i>Chrysophlegma flavinucha</i> (Gould, 1834)	Greater yellownape	R	LC	-	-	4, 5, 8	a	-
352	<i>Dendrocopos analis</i> (Bonaparte, 1850)	Spot-breasted pied Woodpecker	R	LC	-	-	8	-	-
353	<i>Dinopium javanense</i> (Ljungh, 1797)	Common flameback	R	LC	-	-	3, 4, 5, 8	-	-
354	<i>Micropternus brachyurus</i> (Vieillot, 1818)	Rufous woodpecker	R	LC	-	-	4, 5, 6	-	-
355	<i>Picus canus</i> (Gmelin, 1788)	Gray-headed woodpecker	R	LC	-	-	4, 5, 8	-	-
356	<i>Picus chlorolophus</i> Vieillot, 1818	Lesser Yellownape	R	LC	-	-	4	-	-
357	<i>Picus erythropygius</i> (Elliot, 1865)	Black-headed woodpecker	R	LC	-	-	4	-	-
358	<i>Yungipicus canicapillus</i> (Blyth, 1845)	Grey-capped pygmy woodpecker	R	LC	-	-	4, 5, 8	a	-
Podicipediformes									
Podicipedidae		Grebes							
359	<i>Tachybaptus ruficollis</i> (Pallas, 1764)	Little grebe	R	LC	-	-	1, 3, 4, 5, 8	-	IFB
Psittaciformes									
Psittaculidae		Parrots							
360	<i>Psittacula alexandri</i> (Linnaeus, 1758)	Red-breasted parakeet	R	NT	-	IIB	1, 2, 3, 4, 5	-	RC
361	<i>Loriculus vernalis</i> (Sparman, 1787)	Vernal Hanging-Parrot	M	LC	-	IIB	4, 5, 8	-	-
362	<i>Psittacula finschii</i> (Hume, 1874)	Gray-headed parakeet	R	NT	-	IIB	4, 5	-	-
363	<i>Psittacula roseata</i> Biswas, 1951	Blossom-headed parakeet	R	NT	-	IIB	6	-	-
Strigiformes									
Strigidae		Typical Owls							
364	<i>Glaucidium cuculoides</i> (Vigors, 1831)	Asian barred owlet	R	LC	-	IIB	1, 4, 5, 8	-	TEF
365	<i>Bubo nipalensis</i> Hodgson, 1836	Spot-bellied eagle-owl	R	LC	CR	IIB	8	a	-
366	<i>Ketupa zeylonensis</i> (Gmelin, 1788)	Brown fish- owl	R	LC	-	IIB	8	-	-
367	<i>Ninox scutulata</i> (Raffles, 1822)	Brown boobook	R	LC	-	IIB	4, 5, 8	-	-
368	<i>Onus lettia</i> (Hodgson, 1836)	Collared scops- owl	R	LC	-	IIB	1, 4, 5, 8	a	TEF
369	<i>Onus spilocephalus</i> (Blyth, 1846)	Mountain scops-owl	R	LC	-	IIB	2, 3, 5	-	-
370	<i>Onus sunia</i> (Hodgson, 1836)	Oriental scops- owl	R	LC	-	IIB	8	-	-
371	<i>Strix leptogrammica</i> Temminck, 1832	Brown wood- owl	R	LC	-	IIB	8	-	-
Tytonidae		Barn-owls							
372	<i>Phodilus badius</i> (Horsfield, 1821)	Oriental bay- owl	R	LC	-	IIB	2, 3, 5, 8	-	-
373	<i>Tyto alba</i> (Scopoli, 1769)	Western barn owl	R	LC	-	IIB	8	-	-
Suliformes									
Sulidae		Boobies							
374	<i>Sula leucogaster</i> (Boddaert, 1783)	Brown booby	R	LC	-	-	7, 8	-	-
Trogoniiformes									
Trogonidae		Trogons							
375	<i>Harpactes oreskios</i> (Temminck, 1823)	Orange-breasted trogon	R	LC	-	-	4, 8	-	-

Note: Refer to the study methods for details on the sources and symbols used in the list of birds recorded in Ba Ria Vung Tau Province.

Among the six newly recorded species in this study, one bird species Chinese egret (*Egretta eulophotes*) classified as endangered (Vulnerable) (Table 1) in both the Red Data Book of Vietnam (2007) and the IUCN Red List (2024). This raises the total number of endangered, rare, and priority species requiring protection in BRVT Province to 15.

The species composition of birds in BRVT Province shows that among the 21 bird orders, Passeriformes is the largest in number of families and species, with 42 families accounting for 53.84% of the total families and 167

species representing 44.53% of the total species (Table 2). Following that, the order Charadriiformes has the second largest number of families (8 accounting for 10.25%) and 51 species (51 accounting for 13.6%). In addition, three orders have the least number of species, each with only one species: Suliformes (Cormorants), Trogoniformes (Trogons), and Podicipediformes (Grebes).

In the surveys, 142 bird species recorded in this study showed a diverse distribution of different bird species compositions in six habitats across BRVT Province (Table 3).

Table 2: The relative diversity index of avian families and species in Ba Ria Vung Tau Province, Vietnam.

No.	Order	Family		Species	
		Number of families	relative diversity (%)	Number of species	Relative diversity (%)
1	Accipitriformes	2	2.56	19	5.06
2	Anseriformes	1	1.28	5	1.33
3	Apodiformes	1	1.28	10	2.66
4	Bucerotiformes	2	2.56	2	0.53
5	Caprimulgiformes	1	1.28	5	1.33
6	Charadriiformes	8	10.25	51	13.6
7	Ciconiiformes	1	1.28	3	0.8
8	Columbiformes	1	1.28	13	3.46
9	Coraciiformes	3	3.84	16	4.26
10	Cuculiformes	1	1.28	12	3.2
11	Falconiformes	1	1.28	3	0.8
12	Galliformes	1	1.28	7	1.86
13	Gruiformes	1	1.28	8	2.13
14	Passeriformes	42	53.84	167	44.53
15	Pelecaniformes	4	5.12	20	26.66
16	Piciformes	2	2.56	18	4.8
17	Podicipediformes	1	1.28	1	0.26
18	Psittaciformes	1	1.28	4	1.06
19	Strigiformes	2	2.56	9	2.4
20	Suliformes	1	1.28	1	0.26
21	Trogoniformes	1	1.28	1	0.26
Total		78	100	375	100

Table 3: The distribution of bird species according to habitats.

Habitat	Tropical evergreen forest	Coastal mangrove forest	Rivers and canals	Inland freshwater bodies	Urban areas	Agricultural lands
Number of species	65	61	24	66	12	48
(%) of 142 recorded species	45.77	42.95	16.9	46.47	8.45	33.8

Table 4: Bird species recorded and their percentage of detection by ecosystem.

No.	Species Name	Common Name	(% of species recorded in the ecosystem)						Total (%)
			TEF	CMF	RC	IFB	UA	AL	
Accipitriformes									
Accipitridae			Hawks and Eagles						
1	<i>Tachyspiza badia</i> (Gmelin, 1788)	Shikra	100	-	-	-	-	-	100
2	<i>Elanus caeruleus</i> (Desfontaines, 1789)	Black-winged kite	-	-	-	100	-	-	100
3	<i>Milvus migrans</i> (Boddaert, 1783)	Black kite	50	-	-	50	-	-	100
Pandionidae			Osprey						
4	<i>Pandion haliaetus</i> (Linnaeus, 1758)	Osprey	-	100	-	-	-	-	100
Apodiformes									
Apodidae			Swifts						
5	<i>Aerodramus germani</i> (Oustalet, 1876)	Germain's swiftlet	52.63	21.05	-	-	10.52	15.79	100
Bucerotiformes									
Upupidae			Hoopoes						
6	<i>Upupa epops</i> Linnaeus, 1758	Eurasian hoopoe	62.5	-	12.5	25	-	-	100
Caprimulgiformes									
Caprimulgidae			Nightjars						
7	<i>Caprimulgus affinis</i> Horsfield, 1821	Savanna nightjar	100	-	-	-	-	-	100
8	<i>Caprimulgus macrurus</i> Horsfield, 1821	Grey nightjar	33.33	66.66	-	-	-	-	100
Charadriiformes									
Charadriidae			Thick-knees						
9	<i>Charadrius alexandrinus</i> (Linnaeus, 1758)	Kentish plover	-	80	-	-	-	20	100
10	<i>Charadrius dealbatus</i> (Swinhoe, 1870)	White-faced plover	-	50	-	-	-	50	100
11	<i>Thinornis dubius</i> (Scopoli, 1786)	Little-ringed plover	-	-	-	-	-	100	100
12	<i>Charadrius leschenaultia</i> (Lesson, 1826)	Greater sand plover	-	75	-	-	-	25	100
13	<i>Anarhynchus mongolus</i> (Pallas, 1776)	Siberian sand plover	-	40	-	-	-	60	100
14	<i>Pluvialis fulva</i> (Gmelin, 1789)	Pacific golden-plover	-	-	-	-	-	100	100
15	<i>Pluvialis squatarola</i> (Linnaeus, 1758)	Black-bellied plover	-	-	-	-	-	100	100
16	<i>Vanellus indicus</i> (Boddaert, 1783)	Red-wattled lapwing	-	-	25	75	-	-	100
Glareolidae			Couriers and Pratincoles						
17	<i>Glareola maldivarum</i> Forster, 1795	Oriental Pratincole	100	-	-	-	-	-	100
Laridae			Gulls, Terns and Skimmers						
18	<i>Chlidonias hybrida</i> (Pallas, 1811)	Whiskered tern	-	-	-	100	-	-	100
19	<i>Hydroprogne caspia</i> (Pallas, 1770)	Caspian tern	-	75	-	-	-	25	100
20	<i>Sternula albifrons</i> (Pallas, 1764)	Little tern	-	-	-	-	-	100	100
Recurvirostridae			Avocets and Stilts						
21	<i>Himantopus himantopus</i> (Linnaeus, 1758)	Black-winged stilt	-	-	-	-	-	100	100
Scolopacidae			Sandpipers and allies						
22	<i>Actitis hypoleucos</i> (Linnaeus, 1758)	Common sandpiper	-	40	-	40	-	20	100
23	<i>Calidris alba</i> (Pallas, 1764)	Sanderling	-	-	-	-	-	100	100

Table 4: (Continued).

No.	Species Name	Common Name	(% of species recorded in the ecosystem)						Total (%)
			TEF	CMF	RC	IFB	UA	AL	
24	<i>Calidris ferruginea</i> (Pontoppidan, 1763)	Curlew sandpiper	-	-	-	-	-	100	100
25	<i>Calidris ruficollis</i> (Pallas, 1776)	Red-necked stint	-	9.1	-	-	-	90.9	100
26	<i>Calidris subminuta</i> (Middendorff, 1853)	Long-toed stint	-	-	-	-	-	100	100
27	<i>Calidris temminckii</i> (Leisler, 1812)	Temmick's stint	-	-	-	-	-	100	100
28	<i>Gallinago stenura</i> (Bonaparte, 1831)	Pin-tailed snipe	-	-	-	-	-	100	100
29	<i>Numenius phaeopus</i> (Linnaeus, 1758)	Whimbrel	-	100	-	-	-	-	100
30	<i>Tringa brevipes</i> (Vieillot, 1816)	Gray-tailed tattler	-	100	-	-	-	-	100
31	<i>Tringa glareola</i> Linnaeus, 1758	Wood sandpiper	-	14.28	-	-	-	85.72	100
32	<i>Tringa nebularia</i> (Gunnerus, 1767)	Common greenshank	-	22.22	-	-	-	77.78	100
33	<i>Tringa stagnatilis</i> (Bechstein, 1803)	Marsh sandpiper	-	8.33	-	-	-	91.67	100
Turnicidae		Buttonquails							
34	<i>Turnix suscitator</i> (Gmelin, 1789)	Barred buttonquail	-	-	-	100	-	-	100
Ciconiiformes									
Ciconiidae		Storks							
35	<i>Anastomus oscitans</i> (Boddaert, 1783)	Asian openbill	-	100	-	-	-	-	100
Columbiformes									
Columbidae		Pigeons and Doves							
36	<i>Chalcophaps indica</i> (Linnaeus, 1758)	Asian emerald dove	100	-	-	-	-	-	100
37	<i>Geopelia striata</i> (Linnaeus, 1766)	Zebra dove	53.33	6.66	-	-	13.33	26.68	100
38	<i>Spilopelia chinensis</i> (Scopoli, 1786)	Spotted dove	64.28	14.28	7.14	7.14	-	7.14	100
39	<i>Streptopelia tranquebarica</i> (Hermann, 1804)	Red-collared dove	-	50	50	-	-	-	100
40	<i>Treron curvirostra</i> (Gmelin, 1789)	Thick-billed green-pigeon	71.42	14.28	14.28	-	-	-	100
Coraciiformes									
Alcedinidae		Kingfishers							
41	<i>Alcedo atthis</i> (Linnaeus, 1758)	Common kingfisher	-	70	-	30	-	-	100
42	<i>Ceryle rudis</i> (Linnaeus, 1758)	Pied kingfisher	-	-	-	100	-	-	100
43	<i>Halcyon smyrnensis</i> (Linnaeus, 1758)	White-throated kingfisher	40	10	-	50	-	-	100
44	<i>Todiramphus chloris</i> (Boddaert, 1783)	Collared kingfisher	-	72.72	9.09	9.09	-	9.09	100
Meropidae		Bee-eaters							
45	<i>Merops orientalis</i> Latham, 1801	Asian green bee-eater	55.55	5.55	11.11	27.77	-	-	100
46	<i>Merops philippinus</i> Linnaeus, 1766	Blue-tailed bee-eater	-	-	33.33	66.67	-	-	100
47	<i>Nyctyornis athertoni</i> (Jardine and Selby, 1828)	Blue-bearded bee-eater	100	-	-	-	-	-	100
Cuculiformes									
Cuculidae		Cuckoos							
48	<i>Cacomantis merulinus</i> (Scopoli, 1786)	Plaitive cuckoo	-	25	-	50	-	25	100

Table 4: (Continued).

No.	Species Name	Common Name	(% of species recorded in the ecosystem)						Total (%)
			TEF	CMF	RC	IFB	UA	AL	
49	<i>Centropus bengalensis</i> (Gmelin, 1788)	Lesser coucal	-	50	-	50	-	-	100
50	<i>Centropus sinensis</i> (Stephens, 1815)	Greater coucal	42.85	7.14	7.14	42.85	-	-	100
51	<i>Phaenicophaeus tristis</i> (Lesson, 1830)	Green-billed malkoha	33.33	16.66		33.33	16.66		100
Falconiformes									
Falconidae Falcons									
52	<i>Falco peregrinus</i> Tunstall, 1771	Peregrine falcon	100	-	-	-	-	-	100
Galliformes									
Phasianidae Pheasants and Partridges									
53	<i>Coturnix coromandelica</i> (Gmelin, 1789)	Rain quail	100	-	-	-	-	-	100
54	<i>Gallus gallus</i> (Linnaeus, 1758)	Red junglefowl	50	-	50	-	-	-	100
55	<i>Tropicoperdix chloropus</i> Blyth, 1859	Scarly-breasted partridge	100	-	-	-	-	-	100
Gruiformes									
Rallidae Rails Gallinules and Coots									
56	<i>Gallinula chloropus</i> (Linnaeus, 1758)	Eurasian moorhen	-	-	-	100	-	-	100
57	<i>Lewinia striata</i> (Linnaeus, 1766)	Slaty-breasted rail	-	-	-	100	-	-	100
58	<i>Poliolimnas cinereus</i> (Vieillot, 1819)	White-browed crake	-	-	-	100	-	-	100
Passeriformes									
Acanthizidae Thornbills									
59	<i>Gerygone sulphurea</i> Wallace, 1864	Golden-bellied gerygone	-	71.42	14.28	14.28	-	-	100
Acrocephalidae Reed-warblers									
60	<i>Acrocephalus bistrigiceps</i> Swinhoe, 1860	Black-browed reed warbler	-	-	-	100	-	-	100
Aegithinidae Long-tailed Tits									
61	<i>Aegithina lafresnayei</i> (Hartlaub, 1844)	Great iora	100	-	-	-	-	-	100
62	<i>Aegithina tiphia</i> (Linnaeus, 1758)	Common iora	70	10	10	-	10	-	100
Alaudidae Larks									
63	<i>Alauda gulgula</i> Franklin, 1831	Oriental skylark	50	-	-	50	-	-	100
64	<i>Plocealauda erythrocephala</i> (Salvadori and Giglioli, 1885)	Indochinese bushlark	-	-	-	100	-	-	100
Chloropseidae Leafbirds									
65	<i>Chloropsis moluccensis</i> Gray, 1831	Blue-winged leafbird	100	-	-	-	-	-	100
Cisticolidae Cisticolas and Allies									
66	<i>Cisticola juncidis</i> (Rafinesque, 1810)	Zitting cisticola	80	-	-	20	-	-	100
67	<i>Orthotomus atrogularis</i> Temminck, 1836	Dark-necked tailorbird	100	-	-	-	-	-	100
68	<i>Orthotomus ruficeps</i> (Lesson, 1830)	Ashy tailorbird	-	100	-	-	-	-	100
69	<i>Orthotomus sutorius</i> (Pennant, 1769)	Common tailorbird	52.63	5.26	-	31.57	-	10.52	100
70	<i>Prinia flaviventris</i> (Delessert, 1840)	Yellow-bellied prinia	-	100	-	-	-	-	100
71	<i>Prinia inornata</i> Sykes, 1832	Plain prinia	-	16.66	-	50	-	33.33	100

Table 4: (Continued).

No.	Species Name	Common Name	(% of species recorded in the ecosystem)						Total (%)
			TEF	CMF	RC	IFB	UA	AL	
Corvidae			Cows and Jays						
72	<i>Corvus macrorhynchos</i> Wagler, 1827	Large-billed crow	-	50	-	50	-	-	100
73	<i>Crypsirina temia</i> (Daudin, 1800)	Racket-tailed treepie	87.5	12.5	-	-	-	-	100
Dicaeidae			Flowerpeckers						
74	<i>Dicaeum cruentatum</i> (Linnaeus, 1758)	Scarlet-backed flowerpecker	54.54	9.09	18.18	9.09	-	9.09	100
Dicruridae			Drongos						
75	<i>Dicrurus leucophaeus</i> Vieillot, 1817	Ashy drongo	100	-	-	-	-	-	100
76	<i>Dicrurus macrocercus</i> Vieillot, 1817	Black drongo	100	-	-	-	-	-	100
77	<i>Dicrurus paradiseus</i> (Linnaeus, 1766)	Greater Racket-tailed drongo	80	-	-	20	-	-	100
Estrildidae			Waxbills and Allies						
78	<i>Lonchura maja</i> (Linnaeus, 1766)	White-headed munia	-	-	-	100	-	-	100
79	<i>Lonchura punctulata</i> (Linnaeus, 1758)	Scaly-breasted munia	14.28	14.28	19.04	42.85	4.76	4.76	100
80	<i>Lonchura striata</i> (Linnaeus, 1766)	White-rumped munia	100	-	-	-	-	-	100
Hirundinidae			Swallows and Martins						
81	<i>Hirundo rustica</i> Linnaeus, 1758	Barn swallow	-	25	-	62.5	-	12.5	100
Laniidae			Shrikes						
82	<i>Lanius collurio</i> Lesson, 1832	Burmese shrike	22.22	11.11	11.11	44.44	-	11.11	100
Leiothrichidae			Laughingthrushes and Allies						
83	<i>Garrulax leucolophus</i> (Hardwicke, 1815)	White-crested laughingthrush	92.85	-	-	7.14	-	-	100
84	<i>Pterorhinus pectoralis</i> (Gould, 1836)	Greater necklaced laughingthrush	100	-	-	-	-	-	100
Monarchidae			Monarch flycatchers						
85	<i>Terpsiphone incei</i> (Gould, 1852)	Amur paradise-flycatcher	100	-	-	-	-	-	100
Motacillidae			Pipits and Wagtails						
86	<i>Anthus rufulus</i> Vieillot, 1818	Paddyfield pipit	-	-	14.28	57.14	14.28	14.28	100
87	<i>Motacilla flava</i> Linnaeus, 1758	Western yellow wagtail	-	-	-	-	-	100	100
Muscicapidae			Old World Flycatchers and Chats						
88	<i>Cyornis sumatrensis</i> (Sharpe, 1879)	Indochinese blue flycatcher	100	-	-	-	-	-	100
89	<i>Eumyias thalassinus</i> (Swainson, 1838)	Verditer flycatcher	100	-	-	-	-	-	100
90	<i>Muscicapa dauurica</i> Pallas, 1811	Asian brown flycatcher	80	20	-	-	-	-	100
91	<i>Muscicapa sibirica</i> Gmelin, 1789	Dark-sided flycatcher	100	-	-	-	-	-	100
92	<i>Saxicola caprata</i> (Linnaeus, 1766)	Pied bushchat	-	-	-	100	-	-	100
Nectariniidae			Sunbirds						
93	<i>Aethopyga siparaja</i> (Raffles, 1822)	Crimson sunbird	100	-	-	-	-	-	100
94	<i>Anthreptes malacensis</i> (Scopoli, 1786)	Brown-throated sunbird	75	-	-	25	-	-	100
95	<i>Cinnyris ornatus</i> Linnaeus, 1827	Ornate sunbird	52	4	-	32	4	8	100

Table 4: (Continued).

No.	Species Name	Common Name	(% of species recorded in the ecosystem)						Total (%)
			TEF	CMF	RC	IFB	UA	AL	
96	<i>Leptocoma brasiliana</i> (Gmelin, 1788)	Van hasselt's sunbird	100	-	-	-	-	-	100
Pachycephalidae			Whistlers						
97	<i>Pachycephala cinerea</i> (Blyth, 1847)	Mangrove whistler	-	100	-	-	-	-	100
Passeridae			Old World Sparrows						
98	<i>Passer domesticus</i> (Linnaeus 1758)	House sparrow	-	20	-	60	20	-	100
99	<i>Passer flaveolus</i> Blyth, 1845	Plain-backed sparrow	-	-	-	100	-	-	100
100	<i>Passer montanus</i> (Linnaeus, 1758)	Eurasian Tree sparrow	9.09	18.18	18.18	18.18	27.27	9.09	100
Phylloscopidae			Leaf-warblers						
101	<i>Phylloscopus inornatus</i> (Blyth, 1842)	Yellow-browed warbler	50	-	-	50	-	-	100
Pittidae			Pittas						
102	<i>Pitta moluccensis</i> (Müller, 1776)	Blue-winged pitta	100	-	-	-	-	-	100
Ploceidae			Weavers						
103	<i>Ploceus manyar</i> (Horsfield, 1821)	Streaked weaver	-	-	-	50	50	-	100
104	<i>Ploceus philippinus</i> (Linnaeus, 1766)	Baya weaver	-	50	-	50	-	-	100
Pycnonotidae			Bulbuls						
105	<i>Pycnonotus aurigaster</i> (Vieillot, 1818)	Sooty-headed bulbul	-	-	-	66.66	-	33.33	100
106	<i>Pycnonotus conradi</i> (Finsch, 1873)	Streak-eared bulbul	13.33	13.33	6.66	60	-	6.66	100
107	<i>Pycnonotus finlaysoni</i> Strickland, 1844	Stripe-throated bulbul	100	-	-	-	-	-	100
108	<i>Pycnonotus goiavier</i> (Scopoli, 1786)	Yellow-vented bulbul	-	50	16.66	16.66	16.66	-	100
109	<i>Pycnonotus jocosus</i> (Linnaeus, 1758)	Red-whiskered bulbul	100	-	-	-	-	-	100
110	<i>Rubigula flaviventris</i> (Tickell, 1833)	Black-crested bulbul	100	-	-	-	-	-	100
Rhipiduridae			Fantails						
111	<i>Rhipidura javanica</i> (Sparman, 1788)	Malaysian pied fantail	-	75	-	25	-	-	100
Sturnidae			Starlings						
112	<i>Acridotheres tristis</i> (Linnaeus, 1766)	Common myna	-	-	-	50	50	-	100
113	<i>Gracupica nigricollis</i> (Paykull, 1807)	Black-collared starling	-	-	-	100	-	-	100
114	<i>Sturnia malabarica</i> (Gmelin, 1789)	Chestnut-tailed starling	100	-	-	-	-	-	100
Timaliidae			Scimitar-babblers and allies						
115	<i>Mixornis gularis</i> (Horsfield, 1822)	Pin-striped tit-babbler	100	-	-	-	-	-	100
116	<i>Erythrogehyys hypoleucos</i> (Blyth, 1844)	Large scimitar-babbler	100	-	-	-	-	-	100
117	<i>Timalia pileata</i> Horsfield, 1821	Chestnut-capped babbler	100	-	-	-	-	-	100
Zosteropidae			White-eyes and Yuhinas						
118	<i>Zosterops palpebrosus</i> (Temminck, 1824)	Indian white-eye	-	42.85	14.28	-	42.85	-	100
Pelecaniformes			Darters						
119	<i>Anhinga melanogaster</i> Pennant, 1769	Oriental darter	-	50	-	50	-	-	100

Table 4: (Continued)..

No.	Species Name	Common Name	(% of species recorded in the ecosystem)						Total (%)
			TEF	CMF	RC	IFB	UA	AL	
Ardeidae			Hérons						
120	<i>Ardea alba</i> Linnaeus, 1758	Great egret	-	50	-	8.33	-	41.66	100
121	<i>Ardea cinerea</i> Linnaeus, 1758	Grey heron	-	-	-	-	-	100	100
122	<i>Ardea intermedia</i> Wagler, 1829	Intermediate egret	-	-	-	-	-	100	100
123	<i>Ardeola bacchus</i> (Bonaparte, 1855)	Chinese pond-heron	10	50	-	30	-	10	100
124	<i>Ardeola speciosa</i> (Horsfield, 1821)	Javan pond-heron	-	100	-	-	-	-	100
125	<i>Bubulcus coromandus</i> (Boddaert, 1783)	Eastern cattle egret	-	-	-	100	-	-	100
126	<i>Butorides striata</i> (Linnaeus, 1758)	Striated heron	-	42.85	-	28.57	-	28.57	100
127	<i>Egretta eulophotes</i> (Swinhoe, 1860)	Chinese egret	-	100	-	-	-	-	100
128	<i>Egretta garzetta</i> (Linnaeus, 1766)	Little egret	-	45.83	-	25	-	29.16	100
129	<i>Ixobrychus cinnamomeus</i> (Gmelin, 1789)	Cinnamon bittern	-	-	-	100	-	-	100
130	<i>Ixobrychus sinensis</i> (Gmelin, 1789)	Yellow bittern	-	30	-	70	-	-	100
131	<i>Nycticorax nycticorax</i> (Linnaeus, 1758)	Black-crowned night heron	-	16.66	8.33	66.66	-	8.33	100
Phalacrocoracidae			Cormorants						
132	<i>Microcarbo niger</i> (Vieillot, 1817)	Little cormorant	-	34.48	3.44	41.37	-	20.68	100
133	<i>Phalacrocorax fuscicollis</i> Stephens, 1826	Indian cormorant	-	-	-	-	-	100	100
Piciformes			Asian Barbets						
Megalaimidae			Asian Barbets						
134	<i>Psilopogon faiostrictus</i> (Temminck, 1832)	Green-eared barbet	100	-	-	-	-	-	100
135	<i>Psilopogon auricularis</i> (Robinson and Kloss, 1919)	Necklaced barbet	-	-	-	66.66	-	33.33	100
136	<i>Psilopogon haemacephalus</i> (Muller, 1776)	Coppersmith barbet	50	50	-	-	-	-	100
137	<i>Psilopogon lineatus</i> (Vieillot, 1816)	Lineated barbet	83.33	-	-	-	-	16.66	100
Picidae			Woodpeckers						
138	<i>Picus vittatus</i> Vieillot, 1818	Laced woodpecker	-	100	-	-	-	-	100
Podicipediformes			Podicipedidae						
Podicipedidae			Grebes						
139	<i>Tachybaptus ruficollis</i> (Pallas, 1764)	Little grebe	-	-	-	100	-	-	100
Psittaciformes			Psittaculidae						
Psittaculidae			Parrots						
140	<i>Psittacula alexandri</i> (Linnaeus, 1758)	Red-breasted parakeet	-	-	100	-	-	-	100
Strigiformes			Strigidae						
Strigidae			Typical Owls						
141	<i>Glaucidium cuculoides</i> (Vigors, 1831)	Asian barred owlet	100	-	-	-	-	-	100
142	<i>Otus lettia</i> (Hodgson, 1836)	Collared scops-owl	100	-	-	-	-	-	100

Discussion

Tropical evergreen forests, with their stable natural conditions and limited human impact, typically exhibit significantly higher biodiversity compared to urban areas, where the process of urbanization degrades habitats and resources. Specifically, the diversity of bird species in tropical forests is sustained by abundant food sources, suitable habitats, and favorable conditions for reproduction and species development. In contrast, urban areas often lack these essential factors, leading to a significant decline in biodiversity (Ortega-Alvarez and MacGregor-Fors, 2011). In our study, locations such as Dinh and Thi Vai Mountains, Minh Dam Mountain, Lon and Nho Mountains, and May Tau Mountain within the tropical evergreen forests showed a high number of species, with 65 out of 142 species (accounting for 45.77%). However, these areas are currently undergoing human exploitation for various purposes including tourism, mining, monoculture plantations, and other activities. Therefore, urgent conservation efforts are necessary in these mountains to preserve essential habitats and conserve many bird species in BRVT Province.

Wetland habitats are considered crucial ecosystems for studying the habitat use, behavior, and breeding of bird species (Rajpar and Zakaria, 2010). Also, Green et al. (2015) showed some coastal migratory bird species rely on salt pans during their migration and wintering seasons, areas that have become important habitats but often receive little attention and protection. In the study area, coastal mangrove forest, inland freshwater bodies, and agricultural lands are typical wetland habitats. The coastal mangrove forest and inland freshwater bodies have significant diversity in species composition, comprising 61 out of 142 species (42.95%) and 66 out of 142 species (46.47%), respectively. Also, the coastal mangrove forest hosts a diverse range of species from the heron family (Ardeidae), including species such as the Little egret (*Egretta garzetta*), Chinese egret (*Egretta eulophotes*), Great egret (*Ardea alba*), Chinese pond heron (*Ardeola bacchus*), Little cormorant (*Microcarbo niger*), and Striated heron (*Butorides striata*). Furthermore, the Chinese egret (*Egretta eulophotes*) has been recorded in these habitats and is currently classified as Vulnerable (VU) by the IUCN Red List (2024). Additionally, agricultural lands have also recorded a relatively high number of species, with 48 out of 142 species (33.8%), predominantly waterbirds and coastal migratory species during their migration season. Particularly, in these habitats, many bird species are observed congregating at the Long Dien salt pans to forage during high tides. Most of them are migratory birds, like the Curlew sandpiper (*Calidris ferruginea*) and Red-necked stint (*Calidris ruficollis*) that have been recorded during surveys. The species are classified as Near Threatened (NT) by the IUCN (2024). Especially, the Siberian sand-plover

(*Charadrius mongolus*) currently categorized as Endangered (EN) (IUCN, 2024) has also been documented in Long Dien salt pans. Populations of this species have declined by 50–62% from 2010 to 2023 (Birdlife International, 2024). Therefore, this underscores the critical role. Long Dien salt pans play along the flyways of coastal migratory birds and emphasizes the need for their conservation and protection. All three wetland habitats provide favorable conditions for the birds during their migratory season (Birdlife International, 2024) along the East Asian–Australasian Flyway (EAAFP, 2017), and therefore, play a crucial role in conserving biodiversity, particularly for migratory bird species.

Urban areas revealed the lowest diversity, with a total of 12 bird species identified belonging to 11 families and 3 orders, comprising 8.45% of the total recorded species. Among these, the order Passeriformes dominates with 10 out of 12 species. Therefore, studying and implementing initiatives such as urban greening and minimizing environmental pollution factors are crucial to improving the good quality of human life. This will consequently help improve and increase the habitat of birds, including a likely increase in their diversity.

Conclusion

Our survey results recorded 142 bird species belonging to 54 families and 18 orders. Among these, 136 species were previously recorded, and an additional 6 species were newly recorded within BRVT Province. Coordinates were recorded for all 142 species, totaling 730 occurrences. Of these, 93 species were documented with photos. Compared to previous records, this study synthesized and added six species to the avian biodiversity database while reviewing and integrating all previous studies in BRVT Province, resulting in a total checklist of 375 bird species across 78 families and 21 orders. Among these, 146 species are migratory, and 229 species are resident. Additionally, 40 species were updated with new taxonomic classifications according to the latest system. The study also raised the total number of endangered and rare bird species in the province to 15 species.

This study highlights the species diversity of bird communities in BRVT Province across six ecosystems, including tropical evergreen forests (65 species), inland freshwater habitats (66 species), rivers and canals (24 species), urban areas (12 species), agricultural landscapes (48 species), and coastal mangrove forests (61 species). Notably, the presence of threatened and rare bird species in habitats such as tropical evergreen forests, coastal mangrove forests, inland freshwater areas, and agricultural zones underscores the critical role of these environments as essential refuges for avian species amid ongoing urbanization.

However, these ecosystems are facing significant threats. Water pollution from agricultural activities, particularly due to chemical residues, is negatively impacting the habitats of many bird species that depend on aquatic ecosystems. In coastal mangrove forests and inland freshwater areas, plastic waste pollution is also a serious issue, directly affecting food sources and habitats of various bird species. Additionally, the use of mist nets for bird hunting persists in certain agricultural and mangrove areas, posing a major threat to wild bird populations, especially migratory shorebirds. Notably, among the six newly recorded bird species in this study, the Gray-tailed tattler (*Tringa brevipes*) and the Chinese egret (*Egretta eulophotes*) are both classified as rare and threatened migratory species on the IUCN Red List (2024). The discovery of these species highlights the urgent need for long-term monitoring and surveys to identify key ecosystems that serve as critical foraging grounds and stopover sites along their migration routes.

Currently, the Vietnamese government has issued Directive 04/CT-TTg in May 2022 to strengthen the protection of wild and migratory bird species, contributing to improved conservation efforts and the legal protection of many species. However, to ensure sustainable conservation outcomes, it is essential to expand collaboration with local communities to promote appropriate management measures, mitigate negative impacts, and secure the long-term protection of critical habitats across BRVT Province.

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Author contributions

Pham Son Bach, Le Hoang Quy, and Le Khac Quyen conducted data collection across various ecosystems within the province, photographed species, and organized the data. Pham Son Bach interpreted the results and prepared the draft of the manuscript. Nguyen Duy Liem created a simulation map of ecosystems and species recording locations using QGIS software. Nguyen Dang Hoang Vu and Ngo Xuan Quang revised the manuscript and handle project administration.

Conflicts of interest

The authors declare that there are no conflicting issues related to this research article.

References

- Avibase. (2024). The World Bird Database. <https://avibase.bscceoc.org/checklist.jsp?region=VN> (Accessed 30 March 2024).
- Ba Ria - Vung Tau Provincial Party Committee Electronic Portal. (2024). <https://baria-vungtau.dcs.vn/pages?item=gioi-thieu-tong-quan> (Accessed 04 May 2024).
- BirdLife International. (2024). Country profile: Vietnam. <https://datazone.birdlife.org/country/vietnam> (Accessed 04 May 2024).
- Craik, R. C. and Le, Q. M. (2018). *Birds of Vietnam*. Lynx and Birdlife International Field Guides. Lynx Edicions, Barcelona. 400 pp.
- Department of Natural Resources and Environment of Ba Ria Vung Tau Province. (2017). Comprehensive report on the project for investigation, survey, assessment of the current status, and construction of a biological environmental database for the inland water region of Ba Ria Vung Tau Province. Department of Natural Resources and Environment of Ba Ria Vung Tau Province. 358 pp.
- Department of Natural Resources and Environment of Ba Ria Vung Tau Province. (2019). Development of the biodiversity action plan for Ba Ria Vung Tau Province to 2020 and vision to 2030. Department of Natural Resources and Environment of Ba Ria Vung Tau Province. 178 pp.
- EAAFP Secretariat. (2017). East Asian–Australasian Flyway Partnership. <http://www.eaaflyway.net/resources/eaafp-publications/> (Accessed 13 June 2024).
- Forest Inventory and Planning Institute (FIPI II). (1993). Economic and technical justification for the establishment of Binh Chau - Phuoc Buu Nature Reserve. Ho Chi Minh City.
- GBIF. (2024). GBIF Occurrence. Download from <https://doi.org/10.15468/dl.ws4f7x> (Accessed 13 June 2024).
- Government of Vietnam. (2019). Decree No. 06/2019/NĐ-CP on the Management of Endangered, Rare Forest Plants and Animals and the Implementation of International Treaty on the Trade of Endangered Wild Fauna and Flora. 33 pp.
- Government of Vietnam. (2021). Decree No. 84/2021/NĐ-CP amending and supplementing certain articles of Decree No. 06/2019/NĐ-CP on the management of endangered, rare forest plants and animals and the implementation of the international treaty on the trade of endangered wild fauna and flora. 5 pp.
- Government of Vietnam. (2021). Decision No. 2067/QĐ-TTg dated December 8, 2021, approving the project "Inventory, Monitoring, Reporting, and Building a National Biodiversity Database by 2030, with a Vision to 2050." Vietnam Government Portal. 7 pp.

- Government of Vietnam. (2022). Directive No. 04/CT-TTg dated May 17, 2022, on urgent tasks and solutions for the conservation of wild and migratory bird species in Vietnam. Vietnam Government Portal. 5 pp.
- Green, J. M., Sripanomyom, S., Giam, X. and Wilcove, D. S. (2015). The ecology and economics of shorebird conservation in a tropical human-modified landscape. *Journal of Applied Ecology*, 52 (6): 1483–1491.
<https://doi.org/10.1111/1365-2664.12508>
- Gregory, R. D., Gibbons, D. W. and Donald, P. F. (2004). Bird census and survey techniques. *Bird Ecology and Conservation: A Handbook of Techniques, Techniques in Ecology and Conservation*. pp. 17–56.
<https://doi.org/10.1093/acprof:oso/9780198520863.003.0002>
- Hoang, M. D. (2015). Surveying and assessing fluctuations in forest animals and proposing conservation solutions for the development of endangered species in Binh Chau – Phuoc Buu Nature Reserve: Synthesis report. Southern Institute of Ecology, Vietnam Academy of Science and Technology, Ho Chi Minh City. 67 pp.
- IUCN. (2024). The IUCN Red List of Threatened Species. Version 2023-1. <https://www.iucnredlist.org>. (Accessed 30 March 2024).
- Le, M. H. (2020). *Vietnamese Birds – Birds of Vietnam*. Nha Nam and The Gioi Publishers. Hanoi, Vietnam. 821 pp.
- Le, X. C., Hoang, M. K., Le, D. T. and Nguyen, V. S. (2000). Report on the zoological resources (mammals, birds, amphibians, and reptiles) of Binh Chau-Phuoc Buu Nature Reserve, Ba Ria-Vung Tau province. Hanoi: Institute of Ecology and Biological Resources.
- Ministry of Science and Technology - Vietnam Academy of Science and Technology. (2007). Red Data Book of Vietnam (Animal Part). Publishing House of Natural Science and Technology, Hanoi.
- Nguyen, H. A., Park, Y. S., Jung, J. C., Jeong, Y. H. and Oh, H. S. (2021). Avian fauna of Con Dao and Xuan Thuy Ramsar Sites in Vietnam. *Proceedings of the National Institute of Ecology of the Republic of Korea*, 2 (3): 198–209.
<https://doi.org/10.22920/PNIE.2021.2.3.198>
- Ortega-Álvarez, R. and MacGregor-Fors, I. (2011). Dusting-off the file: A review of knowledge on urban ornithology in Latin America. *Landscape and Urban Planning*, 101 (1): 1–10.
<https://doi.org/10.1016/j.landurbplan.2010.12.020>
- Phung, B. T., Nguyen, H. Q. and Hoang, M. D. (2013). Species composition of birds in Binh Chau-Phuoc Buu Nature Reserve, Ba Ria Vung Tau Province. *Proceedings of the 5th National Scientific Conference on Ecology and Biological Resources*. pp. 718–724.
- Rajpar, M. N. and Zakaria, M. (2010). Density and diversity of water birds and terrestrial birds at Paya Indah Wetland Reserve, Selangor Peninsular Malaysia. *Journal of Biological Sciences*, 10 (7): 658–666.
<https://doi.org/10.3923/jbs.2010.658.666>
- Robson, C. (2008). *Field guide to the birds of South-East Asia*. Bloomsbury Publishing, UK. 400 pp.
- Thuairé, B., Allanic, Y., Hoang, V. A., Le, K. Q., Luu Hong, T., Nguyen, T. C. and Nguyen, T. T. (2021). Assessing the biodiversity in Viet Nam - Analysis of the impacts from the economic sectors. The World Wide Fund for Nature (WWF) – Viet Nam, Ha Noi, Viet Nam. 143 pp.