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Occurrence dataset of birds in Sihong Hongze Lake Wetlands National Nature Reserve in China

Huali Hu‡, Wei Hu‡, Zheping Xu§, Changhu Lu‡

‡ College of Biology and the Environment, Nanjing Forestry University, Nanjing, China
§ National Science Library, Chinese Academy of Sciences, Beijing, China

Corresponding author: Changhu Lu (luchanghu@njfu.com.cn)

Abstract

Background

Hongze Lake is China's fourth largest freshwater lake and is also an important habitat for hundreds of thousands of migratory birds on the East Asian-Australian Flyway (EAAF). Sihong Hongze Lake Wetlands National Nature Reserve is located on the northwest of Hongze Lake, Sihong County, Jiangsu Province. The Reserve is a protected large area of natural lake wetlands, marsh wetlands and riverine wetlands and used as a stopover and wintering habitats for migratory birds. Previous studies have conducted bird diversity and temporal-spatial variation in this Reserve, but only for species of Anseriformes. There is still a lack of a comprehensive dataset on the number of bird species and individuals in this Reserve throughout the year. Our study was conducted from July 2020 to June 2021 to observe bird species composition and individual numbers at Sihong Hongze Lake Wetlands National Nature Reserve and provides an occurrence dataset with detailed species and geographic information.

New information

This occurrence dataset is the first public record of birds in Sihong Hongze Lake Wetlands National Nature Reserve for a whole year, which includes the taxonomic information, location information, number, investigation date and endangered level for each species. All data have been published on GBIF.

Keywords

Sihong Hongze Lake, wetland, birds, dataset

Introduction

A lake wetland ecosystem consists of shallow water, marshes, mudflats and sparse grass flats that are natural habitats and feeding grounds for migratory birds and other wetland-dependent wildlife, especially some endangered species (Paszkowski and Tonn 2000, Lyche-Solheim et al. 2013, Wang et al. 2019). The middle and lower reaches of the Yangtze River Basin have the most representative and largest concentration of freshwater lakes in China and provides an important habitat for globally significant numbers of birds (Zhang et al. 2022). However, intensive human activities (agriculture, urbanisation, land reclamation and conversion) and anthropogenic factors (global climatic variation and flooding) have led to the reduction of the lake area and ecological degradation, making the middle and lower reaches of the Yangtze River Basin one of the most endangered areas in China (Cui et al. 2013, Wang X et al. 2020).

Since the 20th century, the Chinese government has taken active measures to protect wetlands. At present, a wetland protection network system has been basically formed with wetland nature reserves as the main body and internationally important wetlands and wetland parks as a combination, which have become an effective measure to protect endangered and rare birds (Zheng et al. 2012). Nature reserves have been established in important lakes, such as Poyang Lake and Dongting Lake and systematic bird research has been carried out in these areas. For example, Debela et al. (2020) have clarified the composition and diversity of the over-wintering aquatic bird community in three nature reserves around Poyang Lake. Yang et al. (2016) have explored the spatiotemporal pattern of bird habitats in Poyang Lake. Zhu et al. (2021) have studied habitat suitability of migratory birds to the water level fluctuation on Dongting Lake.

Hongze Lake is the fourth largest freshwater lake in China and the largest water storage lake along the Eastern Route of the South-North Water Diversion Project (Yang et al. 2021, Zhu et al. 2022). Sihong Hongze Lake Wetlands National Nature Reserve (SHLWNNR) is located at the northwest of Hongze Lake, which is the most completely preserved and representative reserve in China with the breeding of plentiful biological species (Qin et al. 2020). The total area of the Reserve is 49365 hm^2, the wetland types mainly including lake wetlands, marsh wetlands and river wetlands, accounting for 92.26% of the total area of the Reserve (Ye et al. 2004). In addition, the Reserve is located in a dense intersection area of the East Asian-Australian Flyway (EAAF), which is an important stopover site and overwintering ground for migratory birds and a crucial area for the protection of rare and endangered bird species (Jiang et al. 2017).

Bird studies in SHLWNNR are generally lacking and available reports are not specific and incomplete. For instance, Wang et al. (2014) conducted a comprehensive scientific expedition to the Reserve and recorded 147 bird species, belonging to 15 orders and 47 families. Wang et al. (2022) discussed the population distribution and interannual variation of Anatidae in the Reserve during the wintering period and showed that there were 24 Anatidae species with the number of recorded species and population increasing year by

year. Qin et al. (2020) studied different vegetation planting schemes to promote the protection of typical summer migratory birds (*Chlidonias hybrid* (Pallas, 1811)) and winter migratory birds (*Fulica atra* Linnaeus, 1758) in the Reserve. However, these studies recorded and published bird data for only some months or for some species and the research of overall bird diversity are from many years ago. Therefore, we conducted a more comprehensive and systematic field survey to publish an occurrence dataset for updating the bird species list and identifying the status of bird resources in the Reserve throughout the year. It also provides basic data for subsequent researchers to conduct bird research and endangered species conservation in the future.

Sampling methods

Sampling description: In this study, the fixed-point observation method was used to record the individual number of bird species in SHLWNNR. A total of 16 study sites were set up covering different habitats (Fig. 1). The investigation time of bird survey was generally chosen in the morning or evening in good weather conditions and each survey lasted for 5-7 days. During the bird survey, the investigators used a Nikon 20×60 monocular telescope and 10 × 42 binoculars (Shuntu) to survey each fixed-point and the species and numbers of all birds within the observation range were recorded. The observation range consisted of a circular area with a radius of 1 km and the observation time of each study site was 30-40 minutes. Only the birds flying into the sample area were counted, while the birds flying out of the area were not. The counting method adopted a combination of the accurate counting method and the estimation method, the small number of groups adopting the direct accurate counting method, while the larger number of groups adopted the group statistics method. At the same time, a Canon EOS 70d camera with an EF 100-600 mm f/4.5-5.6L ISII USM lens was used to photograph birds and their habitats in the study sites. The determination of species names and bird classifications was mainly based on *A Checklist on the Classification and Distribution of the Birds of China (Third Edition)* (Zheng 2017). The final dataset was organised according to the Darwin Core format and uploaded to GBIF upon the conclusion of annual surveys (Hu et al. 2023) .

Geographic coverage

Description: We downloaded the image of land-cover type from GlobeLand30 (http://www.globallandcover.com/) and drew the investigation scope by using ArcGIS 10.8. A total of 16 study sites were set up, covering all habitat types of the Reserve.

Coordinates: 33.19 N and 33.32 N Latitude; 118.22 E and 118.58 E Longitude.

Taxonomic coverage

Description: SHLWNNR is an important habitat for rare and endangered birds and, after a year of bird surveys, a total of 201918 detections for 215 species belonging to 18 orders

and 55 families were recorded in this occurrence dataset (Table 1), including 37 species which were listed in the category of national key protected wild animals (National Forestry and Grassland Administration, Ministry of Agriculture and Rural Affairs 2021) and 16 species listed in the IUCN Red List as Threatened Species (IUCN 2023). In the category of China's key protected wildlife; *Aythya baeri* (Radde, 1863), *Ciconia nigra* (Linnaeus, 1758), *Ciconia boyciana* Swinhoe, 1873, *Platalea minor* Temminck & Schlegel, 1849 and *Aegypius monachus* (Linnaeus, 1766) were ranked as National First-class Protected Wildlife; *Anser cygnoid* (Linnaeus, 1758), *Anser albifrons* (Scopoli, 1769), *Cygnus columbianus* (Ord, 1815), *Aix galericulata* (Linnaeus, 1758), *Nettapus coromandelianus* (Gmelin, 1789), *Sibirionetta Formosa* (Georgi, 1775), *Mergellus albellus* (Linnaeus, 1758), *Centropus bengalensis* (Gmelin, 1788), *Hydrophasianus chirurgus* (Scopoli, 1786), *Numenius arquata* (Linnaeus, 1758), *Platalea leucorodia* Linnaeus, 1758, *Pandion haliaetus* (Linnaeus, 1758), *Elanus caeruleus* (Desfontaines, 1789), *Accipiter nisus* (Linnaeus, 1758), *Accipiter gentilis* (Linnaeus, 1758), *Circus spilonotus* Kaup, 1847, *Circus cyaneus* (Linnaeus, 1766), *Circus melanoleucos* (Pennant, 1769), *Milvus migrans* (Boddaert, 1783), *Buteo japonicus* Temminck & Schlegel, 1844, *Otus sunia* (Hodgson, 1836), *Glaucidium cuculoides* (Vigors, 1831), *Athene noctua* (Scopoli, 1769), *Asio flammeus* (Pontoppidan, 1763), *Falco tinnunculus* Linnaeus, 1758, *Falco amurensis* Radde, 1863, *Falco peregrinus* Tunstall, 1771, *Paradoxornis heudei* David, 1872, *Zosterops erythropleurus* Swinhoe, 1863, *Garrulax canorus* (Linnaeus, 1758), *Calliope calliope* (Pallas, 1776) and *Saxicola insignis* J.E.Gray & G.R.Gray, 1847 were ranked as National Second-class Protected Wildlife. In the IUCN Red List, *Aythya baeri* (Radde, 1863) was ranked as Critically Endangered (CR); *Ciconia boyciana* Swinhoe, 1873 and *Platalea minor* Temminck & Schlegel, 1849 were ranked as Endangered (EN); *Anser cygnoid* (Linnaeus, 1758), *Aythya ferina* (Linnaeus, 1758), *Saxicola insignis* J.E.Gray & G.R.Gray, 1847 and *Emberiza rustica* Pallas, 1776 were ranked as Vulnerable (VU); *Coturnix japonica* Temminck & Schlegel, 1849, *Mareca falcata* (Georgi, 1775), *Aythya nyroca* (Guldenstadt, 1770), *Vanellus vanellus* (Linnaeus, 1758), *Limosa limosa* (Linnaeus, 1758), *Numenius arquata* (Linnaeus, 1758), *Aegypius monachus* (Linnaeus, 1758), *Paradoxornis heudei* David, 1872 and *Bombycilla japonica* (Siebold, 1824) were ranked as Near Threatened (NT).

Temporal coverage

Data range: 2020-7-20 - 2021-6-24.

Notes: The specific dates of this period were: 2020-07-20~2020-07-24 ; 2020-08-21~2020-08-25 ; 2020-09-20~2020-09-25 ; 2020-10-21~2020-10-25 ; 2020-11-17~2020-11-23 ; 2020-12-19~2020-12-24 ; 2021-01-22~2021-01-27 ; 2021-02-22~2021-02-28 ; 2021-03-19~2021-03-25 ; 2021-04-21~2021-04-26 ; 2021-05-20~2021-05-25 ; 2021-06-19~2021-06-24.

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Data resources

Data package title: Occurrence dataset of birds in the Sihong Hongze Lake Wetland National Nature Reserve, Jiangsu, China

Resource link: http://www.gbif.org/dataset/c5ccfa7e-eda3-47e3-9652-ab1104576125

Alternative identifiers: https://doi.org/10.15468/p2h2f9; http://www.gbifchina.org.cn/resource?r=sihong_hongze_lake_bird

Number of data sets: 1

Data set name: Occurrence dataset of birds in the Sihong Hongze Lake Wetland National Nature Reserve, Jiangsu, China

Download URL: http://www.gbifchina.org.cn/resource?r=sihong_hongze_lake_bird&v=1.2

Data format: Darwin Core Archive format

Description: Our occurrence data contains 34 column labels. All occurrence records are georeferenced.

Column label	Column description
eventID (Event Core, Occurrence Extension)	An identifier for the set of information associated with an Event (something that occurs at a place and time). May be a global unique identifier or an identifier specific to the dataset.
parentEventID (Event Core)	An identifier for the broader Event that groups this and potentially other Events.
eventDate (Event Core)	The date when the event was recorded.
samplingProtocol (Event Core)	The names of, references to, or descriptions of the methods or protocols used during an Event.
samplingEffort (Event Core)	The amount of effort expended during an Event.
sampleSizeValue (Event Core)	A numeric value for a measurement of the size (time duration, length, area or volume) of a sample in a sampling event.
sampleSizeUnit (Event Core)	The unit of measurement of the size (time duration, length, area or volume) of a sample in a sampling event.

decimalLongitude (Event Core)	The geographic longitude of the geographic centre of a Location.
decimalLatitude (Event Core)	The geographic latitude of the geographic centre of a Location.
geodeticDatum (Event Core)	The ellipsoid, geodetic datum or spatial reference system (SRS), upon which the geographic coordinates given in decimalLatitude and decimalLongitude are based.
countryCode (Event Core)	The standard code for the country in which the Location occurs.
country (Event Core)	The name of the country in which the Location occurs.
stateProvince (Event Core)	The name of the next smaller administrative region than country (state, province, canton, department, region etc.) in which the Location occurs.
county (Event Core)	The full, unabbreviated name of the next smaller administrative region than stateProvince (county, shire, department etc.) in which the Location occurs.
locality (Event Core)	The specific description of the place.
coordinateUncertaintyInMetres (Event Core)	The horizontal distance (in metres) from the given decimalLatitude and decimalLongitude describing the smallest circle containing the whole of the Location. Leave the value empty if the uncertainty is unknown, cannot be estimated or is not applicable (because there are no coordinates). Zero is not a valid value for this term.
occurrenceID (Occurrence Extension)	An identifier for the bird occurrence.
basisOfRecord (Occurrence Extension)	The specific nature of the data record.
recordedBy (Occurrence Extension)	A list (concatenated and separated) of names of people, groups or organisations responsible for recording the original Occurrence. The primary collector or observer, especially one who applies a personal identifier (recordNumber), should be listed first.
individualCount (Occurrence Extension)	The number of individuals present at the time of the Occurrence.
organismQuantity (Occurrence Extension)	A number or enumeration value for the quantity of organisms.
organismQuantityType (Occurrence Extension)	The type of quantification system used for the quantity of organisms.
occurrenceStatus (Occurrence Extension)	A statement about the presence or absence of a Taxon at a Location.
scientificName (Occurrence Extension)	The full scientific name.
scientificNameAuthorship (Occurrence Extension)	The authorship information for the scientificName formatted according to the conventions of the applicable nomenclaturalCode.

kingdom (Occurrence Extension)	The full scientific name of the kingdom in which the taxon is classified.
phylum (Occurrence Extension)	The full scientific name of the phylum in which the taxon is classified.
class (Occurrence Extension)	The full scientific name of the class in which the taxon is classified.
order (Occurrence Extension)	The full scientific name of the order in which the taxon is classified.
family (Occurrence Extension)	The full scientific name of the family in which the taxon is classified.
genus (Occurrence Extension)	The full scientific name of the genus in which the taxon is classified.
taxonRank (Occurrence Extension)	The taxonomic rank of the most specific name in the scientificName as it appears in the original record.
ownerInstitutionCode (Occurrence Extension)	The name (or acronym) in use by the institution having ownership of the object(s) or information referred to in the record.
dynamicProperties (Occurrence Extension)	A list of threatened level about the record according to the IUCN Red List of Threatened Species (Version 2022-2). Meant to provide a mechanism for structured content.

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Author contributions

Huali Hu - Data preparation, GIS processing, manuscript editing; Wei Hu - Species identification; Zheping Xu - Review and upload data to GBIF; Changhu Lu - Review and editing

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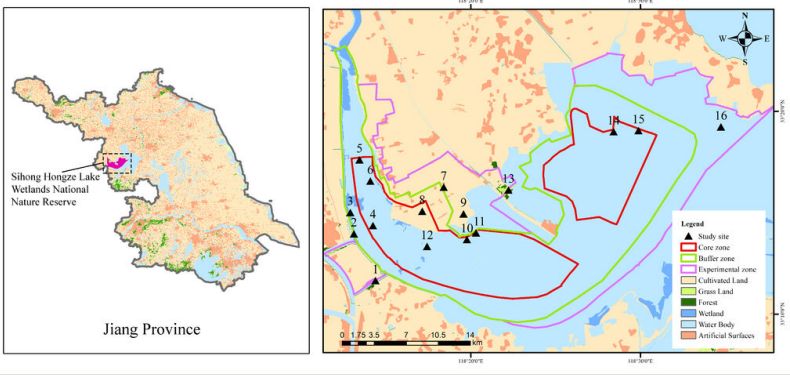

Figure 1.

Location of the study sites in Sihong Hongze Lake Wetlands National Nature Reserve.

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Table 1.

Bird list in Sihong Hongze Lake Wetlands National Nature Reserve.

Rank	Order	Family	Scientific Name
1	Galliformes	Phasianidae	*Coturnix japonica* Temminck & Schlegel, 1849
2	Galliformes	Phasianidae	*Phasianus colchicus* Linnaeus, 1758
3	Anseriformes	Anatidae	*Anser cygnoid* (Linnaeus, 1758)
4	Anseriformes	Anatidae	*Anser fabalis* (Latham, 1787)
5	Anseriformes	Anatidae	*Anser anser* (Linnaeus, 1758)
6	Anseriformes	Anatidae	*Anser albifrons* (Scopoli, 1769)
7	Anseriformes	Anatidae	*Cygnus columbianus* (Ord, 1815)
8	Anseriformes	Anatidae	*Tadorna tadorna* (Linnaeus, 1758)
9	Anseriformes	Anatidae	T*adorna ferruginea* (Pallas, 1764)
10	Anseriformes	Anatidae	*Aix galericulata* (Linnaeus, 1758)
11	Anseriformes	Anatidae	*Nettapus coromandelianus* (Gmelin, 1789)
12	Anseriformes	Anatidae	*Mareca strepera* (Linnaeus, 1758)
13	Anseriformes	Anatidae	*Mareca falcata* (Georgi, 1775)
14	Anseriformes	Anatidae	*Mareca penelope* (Linnaeus, 1758)
15	Anseriformes	Anatidae	*Anas platyrhynchos* Linnaeus, 1758
16	Anseriformes	Anatidae	*Anas zonorhyncha* Swinhoe, 1866
17	Anseriformes	Anatidae	*Anas acuta* Linnaeus, 1758
18	Anseriformes	Anatidae	*Anas crecca* Linnaeus, 1758
19	Anseriformes	Anatidae	*Spatula clypeata* (Linnaeus, 1758)
20	Anseriformes	Anatidae	*Spatula querquedula* (Linnaeus, 1758)
21	Anseriformes	Anatidae	*Sibirionetta formosa* (Georgi, 1775)
22	Anseriformes	Anatidae	*Aythya ferina* (Linnaeus, 1758)
23	Anseriformes	Anatidae	*Aythya baeri* (Radde, 1863)
24	Anseriformes	Anatidae	*Aythya nyroca* (Guldenstadt, 1770)
25	Anseriformes	Anatidae	*Aythya fuligula* (Linnaeus, 1758)
26	Anseriformes	Anatidae	*Mergellus albellus* (Linnaeus, 1758)
27	Anseriformes	Anatidae	*Mergus merganser* Linnaeus, 1758

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28	Podicipediformes	Podicipedidae	*Tachybaptus ruficollis* (Pallas, 1764)
29	Podicipediformes	Podicipedidae	*Podiceps cristatus* (Linnaeus, 1758)
30	Columbiformes	Columbidae	*Streptopelia orientalis* (Latham, 1790)
31	Columbiformes	Columbidae	*Streptopelia decaocto* (Frivaldszky, 1838)
32	Columbiformes	Columbidae	*Streptopelia tranquebarica* (Hermann, 1804)
33	Columbiformes	Columbidae	*Streptopelia chinensis* (Scopoli, 1786)
34	Caprimulgiformes	Caprimulgidae	*Caprimulgus indicus* Latham, 1790
35	Caprimulgiformes	Apodidae	*Apus pacificus* (Latham, 1801)
36	Cuculiformes	Cuculidae	*Centropus bengalensis* (Gmelin, 1788)
37	Cuculiformes	Cuculidae	*Eudynamys scolopaceus* (Linnaeus, 1758)
38	Cuculiformes	Cuculidae	*Hierococcyx sparverioides* (Vigors, 1832)
39	Cuculiformes	Cuculidae	*Cuculus micropterus* Gould, 1838
40	Cuculiformes	Cuculidae	*Cuculus canorus* Linnaeus, 1758
41	Gruiformes	Rallidae	*Rallus indicus* Blyth, 1849
42	Gruiformes	Rallidae	*Amaurornis phoenicurus* (Pennant, 1769)
43	Gruiformes	Rallidae	*Gallinula chloropus* (Linnaeus, 1758)
44	Gruiformes	Rallidae	*Fulica atra* Linnaeus, 1758
45	Charadriiformes	Recurvirostridae	*Himantopus himantopus* (Linnaeus, 1758)
46	Charadriiformes	Recurvirostridae	*Recurvirostra avosetta* Linnaeus, 1758
47	Charadriiformes	Charadriidae	*Vanellus vanellus* (Linnaeus, 1758)
48	Charadriiformes	Charadriidae	*Vanellus cinereus* (Blyth, 1842)
49	Charadriiformes	Charadriidae	*Pluvialis fulva* (Gmelin, 1789)
50	Charadriiformes	Charadriidae	*Charadrius dubius* Scopoli, 1786
51	Charadriiformes	Charadriidae	*Charadrius alexandrinus* Linnaeus, 1758
52	Charadriiformes	Charadriidae	*Charadrius leschenaultii* Lesson, 1826
53	Charadriiformes	Rostratulidae	*Rostratula benghalensis* (Linnaeus, 1758)
54	Charadriiformes	Jacanidae	*Hydrophasianus chirurgus* (Scopoli, 1786)
55	Charadriiformes	Scolopacidae	*Gallinago stenura* (Bonaparte, 1831)
56	Charadriiformes	Scolopacidae	*Gallinago gallinago* (Linnaeus, 1758)
57	Charadriiformes	Scolopacidae	*Limosa limosa* (Linnaeus, 1758)
58	Charadriiformes	Scolopacidae	*Numenius arquata* (Linnaeus, 1758)

59	Charadriiformes	Scolopacidae	*Tringa erythropus* (Pallas, 1764)
60	Charadriiformes	Scolopacidae	*Tringa totanus* (Linnaeus, 1758)
61	Charadriiformes	Scolopacidae	*Tringa stagnatilis* (Bechstein, 1803)
62	Charadriiformes	Scolopacidae	*Tringa nebularia* (Gunnerus, 1767)
63	Charadriiformes	Scolopacidae	*Tringa ochropus* Linnaeus, 1758
64	Charadriiformes	Scolopacidae	*Tringa glareola* Linnaeus, 1758
65	Charadriiformes	Scolopacidae	*Actitis hypoleucos* (Linnaeus, 1758)
66	Charadriiformes	Scolopacidae	*Calidris alba* (Pallas, 1764)
67	Charadriiformes	Glareolidae	*Glareola maldivarum* J.R.Forster, 1795
68	Charadriiformes	Laridae	*Chroicocephalus ridibundus* (Linnaeus, 1766)
69	Charadriiformes	Laridae	*Larus smithsonianus* Coues, 1862
70	Charadriiformes	Laridae	*Sternula albifrons* (Pallas, 1764)
71	Charadriiformes	Laridae	*Sterna hirundo* Linnaeus, 1758
72	Charadriiformes	Laridae	*Chlidonias hybrida* (Pallas, 1811)
73	Charadriiformes	Laridae	*Chlidonias leucopterus* (Temminck, 1815)
74	Ciconiiformes	Ciconiidae	*Ciconia nigra* (Linnaeus, 1758)
75	Ciconiiformes	Ciconiidae	*Ciconia boyciana* Swinhoe, 1873
76	Suliformes	Phalacrocoracidae	*Phalacrocorax carbo* (Linnaeus, 1758)
77	Pelecaniformes	Threskiornithidae	*Platalea leucorodia* Linnaeus, 1758
78	Pelecaniformes	Threskiornithidae	*Platalea minor* Temminck & Schlegel, 1849
79	Pelecaniformes	Ardeidae	*Botaurus stellaris* (Linnaeus, 1758)
80	Pelecaniformes	*Ardeidae*	*Ixobrychus sinensis (Gmelin, 1789)*
81	Pelecaniformes	Ardeidae	*Ixobrychus cinnamomeus* (Gmelin, 1789)
82	Pelecaniformes	Ardeidae	I*xobrychus flavicollis* (Latham, 1790)
83	Pelecaniformes	Ardeidae	*Nycticorax nycticorax* (Linnaeus, 1758)
84	Pelecaniformes	Ardeidae	*Ardeola bacchus* (Bonaparte, 1855)
85	Pelecaniformes	Ardeidae	*Bubulcus ibis* (Linnaeus, 1758)
86	Pelecaniformes	Ardeidae	*Ardea cinerea* Linnaeus, 1758
87	Pelecaniformes	Ardeidae	*Ardea purpurea* Linnaeus, 1766
88	Pelecaniformes	Ardeidae	*Ardea alba* Linnaeus, 1758
89	Pelecaniformes	Ardeidae	*Ardea intermedia* Wagler, 1829

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90	Pelecaniformes	Ardeidae	*Egretta garzetta* (Linnaeus, 1766)
91	Accipitriformes	Pandionidae	*Pandion haliaetus* (Linnaeus, 1758)
92	Accipitriformes	Accipitridae	*Elanus caeruleus* (Desfontaines, 1789)
93	Accipitriformes	Accipitridae	*Aegypius monachus* (Linnaeus, 1766)
94	Accipitriformes	Accipitridae	*Accipiter nisus* (Linnaeus, 1758)
95	Accipitriformes	Accipitridae	*Accipiter gentilis* (Linnaeus, 1758)
96	Accipitriformes	Accipitridae	*Circus spilonotus* Kaup, 1847
97	Accipitriformes	Accipitridae	*Circus cyaneus* (Linnaeus, 1766)
98	Accipitriformes	Accipitridae	*Circus melanoleucos* (Pennant, 1769)
99	Accipitriformes	Accipitridae	*Milvus migrans* (Boddaert, 1783)
100	Accipitriformes	Accipitridae	*Buteo japonicus* Temminck & Schlegel, 1844
101	Strigiformes	Strigidae	*Otus sunia* (Hodgson, 1836)
102	Strigiformes	Strigidae	*Glaucidium cuculoides* (Vigors, 1831)
103	Strigiformes	Strigidae	*Athene noctua* (Scopoli, 1769)
104	Strigiformes	Strigidae	*Asio flammeus* (Pontoppidan, 1763)
105	Bucerotiformes	Upupidae	*Upupa epops* Linnaeus, 1758
106	Coraciiformes	Coraciidae	*Eurystomus orientalis* (Linnaeus, 1766)
107	Coraciiformes	Alcedinidae	*Halcyon pileata* (Boddaert, 1783)
108	Coraciiformes	Alcedinidae	*Alcedo atthis* (Linnaeus, 1758)
109	Coraciiformes	Alcedinidae	*Ceryle rudis* (Linnaeus, 1758)
110	Piciformes	Picidae	*Jynx torquilla* Linnaeus, 1758
111	Piciformes	Picidae	*Dendrocopos* canicapillus (Blyth, 1845)
112	Piciformes	Picidae	*Dendrocopos major* (Linnaeus, 1758)
113	Piciformes	Picidae	*Picus canus* J.F.Gmelin, 1788
114	Falconiformes	Falconidae	*Falco tinnunculus* Linnaeus, 1758
115	Falconiformes	Falconidae	*Falco amurensis* Radde, 1863
116	Falconiformes	Falconidae	*Falco peregrinus* Tunstall, 1771
117	Passeriformes	Oriolidae	*Oriolus chinensis* Linnaeus, 1766
118	Passeriformes	Campephagidae	*Lalage melaschistos* (Hodgson, 1836)
119	Passeriformes	Dicruridae	*Dicrurus macrocercus* Vieillot, 1817
120	Passeriformes	Dicruridae	*Dicrurus leucophaeus* Vieillot, 1817

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121	Passeriformes	Monarchidae	*Terpsiphone incei* (Gould, 1852)
122	Passeriformes	Laniidae	*Lanius tigrinus* Drapiez, 1828
123	Passeriformes	Laniidae	*Lanius bucephalus* Temminck & Schlegel, 1845
124	Passeriformes	Laniidae	*Lanius cristatus* Linnaeus, 1758
125	Passeriformes	Laniidae	*Lanius schach* Linnaeus, 1758
126	Passeriformes	Laniidae	*Lanius sphenocercus* Cabanis, 1873
127	Passeriformes	Corvidae	*Cyanopica cyanus* (Pallas, 1776)
128	Passeriformes	Corvidae	*Dendrocitta formosae* Swinhoe, 1863
129	Passeriformes	Corvidae	*Pica pica* (Linnaeus, 1758)
130	Passeriformes	Corvidae	*Corvus corone* Linnaeus, 1758
131	Passeriformes	Paridae	*Pardaliparus venustulus* (Swinhoe, 1870)
132	Passeriformes	Paridae	*Parus cinereus* Vieillot, 1818
133	Passeriformes	Remizidae	*Remiz consobrinus* (Swinhoe, 1870)
134	Passeriformes	Alaudidae	*Alauda gulgula* Franklin, 1831
135	Passeriformes	Cisticolidae	*Cisticola juncidis* (Rafinesque, 1810)
136	Passeriformes	Cisticolidae	*Prinia inornata* Sykes, 1832
137	Passeriformes	Acrocephalidae	*Acrocephalus orientalis* (Temminck & Schlegel, 1847)
138	Passeriformes	Acrocephalidae	*Acrocephalus bistrigiceps* Swinhoe, 1860
139	Passeriformes	Hirundinidae	*Riparia riparia* (Linnaeus, 1758)
140	Passeriformes	Hirundinidae	*Hirundo rustica* Linnaeus, 1758
141	Passeriformes	Hirundinidae	*Cecropis daurica* (Laxmann, 1769)
142	Passeriformes	Pycnonotidae	*Spizixos semitorques* Swinhoe, 1861
143	Passeriformes	Pycnonotidae	*Pycnonotus xanthorrhous* Anderson, 1869
144	Passeriformes	Pycnonotidae	*Pycnonotus sinensis* (Gmelin, 1789)
145	Passeriformes	Phylloscopidae	*Phylloscopus fuscatus* (Blyth, 1842)
146	Passeriformes	Phylloscopidae	*Phylloscopus proregulus* (Pallas, 1811)
147	Passeriformes	Phylloscopidae	*Phylloscopus inornatus* (Blyth, 1842)
148	Passeriformes	Phylloscopidae	*Phylloscopus borealis* (J.H.Blasius, 1858)
149	Passeriformes	Phylloscopidae	*Phylloscopus tenellipes* Swinhoe, 1860
150	Passeriformes	Phylloscopidae	*Phylloscopus coronatus* (Temminck & Schlegel, 1847)
151	Passeriformes	Cettiidae	*Horornis canturians* (Swinhoe, 1860)

152	Passeriformes	Cettiidae	*Horornis fortipes* Hodgson, 1845
153	Passeriformes	Cettiidae	*Urosphena squameiceps* (Swinhoe, 1863)
154	Passeriformes	Aegithalidae	*Aegithalos glaucogularis* (Moore, 1855)
155	Passeriformes	Aegithalidae	*Aegithalos concinnus* (Gould, 1855)
156	Passeriformes	Sylviidae	*Sinosuthora webbiana* (Gould, 1852)
157	Passeriformes	Sylviidae	*Paradoxornis heudei* David, 1872
158	Passeriformes	Zosteropidae	*Zosterops erythropleurus* Swinhoe, 1863
159	Passeriformes	Zosteropidae	*Zosterops japonicus* Temminck & Schlegel, 1845
160	Passeriformes	Leiothrichidae	*Garrulax canorus* (Linnaeus, 1758)
161	Passeriformes	Leiothrichidae	*Garrulax perspicillatus* (Gmelin, 1789)
162	Passeriformes	Sturnidae	*Acridotheres cristatellus* (Linnaeus, 1758)
163	Passeriformes	Sturnidae	*Spodiopsar sericeus* (Gmelin, 1789)
164	Passeriformes	Sturnidae	*Spodiopsar cineraceus* (Temminck, 1835)
165	Passeriformes	Sturnidae	*Gracupica nigricollis* (Paykull, 1807)
166	Passeriformes	Turdidae	*Geokichla sibirica* (Pallas, 1776)
167	Passeriformes	Turdidae	*Zoothera aurea* (Holandre, 1825)
168	Passeriformes	Turdidae	*Turdus hortulorum* P.L.Sclater, 1863
169	Passeriformes	Turdidae	*Turdus cardis* Temminck, 1831
170	Passeriformes	Turdidae	*Turdus mandarinus* Bonaparte, 1850
171	Passeriformes	Turdidae	*Turdus pallidus* Gmelin, 1789
172	Passeriformes	Turdidae	*Turdus naumanni* Temminck, 1820
173	Passeriformes	Turdidae	*Turdus eunomus* Temminck, 1831
174	Passeriformes	Muscicapidae	*Larvivora cyane* (Pallas, 1776)
175	Passeriformes	Muscicapidae	*Calliope calliope* (Pallas, 1776)
176	Passeriformes	Muscicapidae	*Tarsiger cyanurus* (Pallas, 1773)
177	Passeriformes	Muscicapidae	*Copsychus saularis* (Linnaeus, 1758)
178	Passeriformes	Muscicapidae	*Phoenicurus auroreus* (Pallas, 1776)
179	Passeriformes	Muscicapidae	*Rhyacornis fuliginosa* (Vigors, 1831)
180	Passeriformes	Muscicapidae	*Myophonus caeruleus* (Scopoli, 1786)
181	Passeriformes	Muscicapidae	*Saxicola insignis* J.E.Gray & G.R.Gray, 1847
182	Passeriformes	Muscicapidae	*Saxicola maurus* (Pallas, 1773)

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183	Passeriformes	Muscicapidae	*Muscicapa sibirica* Gmelin, 1789
184	Passeriformes	Muscicapidae	*Muscicapa dauurica* Pallas, 1811
185	Passeriformes	Muscicapidae	*Ficedula zanthopygia* (Hay, 1845)
186	Passeriformes	Muscicapidae	*Ficedula narcissina* (Temminck, 1836)
187	Passeriformes	Muscicapidae	*Ficedula mugimaki* (Temminck, 1836)
188	Passeriformes	Muscicapidae	*Ficedula albicilla* (Pallas, 1811)
189	Passeriformes	Muscicapidae	*Cyanoptila cyanomelana* (Temminck, 1829)
190	Passeriformes	Bombycillidae	*Bombycilla japonica* (Siebold, 1824)
191	Passeriformes	Estrildidae	*Lonchura striata* (Linnaeus, 1766)
192	Passeriformes	Passeridae	*Passer cinnamomeus* (Temminck, 1836)
193	Passeriformes	Passeridae	*Passer montanus* (Linnaeus, 1758)
194	Passeriformes	Motacillidae	*Dendronanthus indicus* (Gmelin, 1789)
195	Passeriformes	Motacillidae	*Motacilla tschutschensis* Gmelin, 1789
196	Passeriformes	Motacillidae	*Motacilla cinerea* Tunstall, 1771
197	Passeriformes	Motacillidae	*Motacilla alba* Linnaeus, 1758
198	Passeriformes	Motacillidae	*Anthus richardi* Vieillot, 1818
199	Passeriformes	Motacillidae	*Anthus hodgsoni* Richmond, 1907
200	Passeriformes	Motacillidae	*Anthus cervinus* (Pallas, 1811)
201	Passeriformes	Motacillidae	*Anthus spinoletta* (Linnaeus, 1758)
202	Passeriformes	Fringillidae	*Fringilla montifringilla* Linnaeus, 1758
203	Passeriformes	Fringillidae	*Eophona migratoria* Hartert, 1903
204	Passeriformes	Fringillidae	*Eophona personata* (Temminck & Schlegel, 1848)
205	Passeriformes	Fringillidae	*Chloris sinica* (Linnaeus, 1766)
206	Passeriformes	Fringillidae	*Spinus spinus* (Linnaeus, 1758)
207	Passeriformes	Emberizidae	*Emberiza cioides* vonJ.F.Brandt, 1843
208	Passeriformes	Emberizidae	*Emberiza tristrami* Swinhoe, 1870
209	Passeriformes	Emberizidae	*Emberiza pusilla* Pallas, 1776
210	Passeriformes	Emberizidae	*Emberiza chrysophrys* Pallas, 1776
211	Passeriformes	Emberizidae	*Emberiza rustica* Pallas, 1776
212	Passeriformes	Emberizidae	*Emberiza elegans* Temminck, 1836
213	Passeriformes	Emberizidae	*Emberiza spodocephala* Pallas, 1776

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214	Passeriformes	Emberizidae	*Emberiza pallasi* (Cabanis, 1851)
215	Passeriformes	Emberizidae	*Emberiza schoeniclus* (Linnaeus, 1758)