Biota from the coastal wetlands of Praia da Vitória (Terceira, Azores, Portugal): Part 3 - Birds

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Abstract

Background

The data presented here come from field observations of Aves between August 2013 and October 2018 as part of a LIFE research project aiming to preserve and restore three coastal wetlands from Praia da Vitória (Terceira Island, Azores, Portugal). Systematic monthly observations were carried out for five years in order to provide a checklist and monitoring of bird species and subspecies observed in three sites: Paul da Praia da Vitória (PPV), Paul do Belo Jardim (PBJ) and Paul da Pedreira do Cabo da Praia (PPCP). Main objectives were to determine their ornithological richness while also adding data to the overall knowledge of Azorean Avifauna and to monitor seasonal and between-year variation on species abundance.
New information

During a five-year observation period (2013-2018), a total of 82,985 birds belonging to 108 species/subspecies were observed. From this, 16,663 were in PPV, 11,793 from PBJ and 54,529 from PPCP. The total richness was 55, 40 and 85, respectively. Three species are first records for the Azores: *Aythya americana* (Eyton, 1838); *Chlidonias leucopterus* (Temminck, 1815) and *Tringa brevipes* (Vieillot, 1816). One species is a new record for Terceira Island: *Lophodytes cucullatus* (Linnaeus, 1758).

Keywords

Aves, Azores, Terceira, Wetlands, Ornitofauna.

Introduction

The Azorean Avifauna has been described in several publications, the most recent being Rodrigues et al. (2010), Rodebrand (2012) and Barcelos et al. (2015). Despite the fact that the Azorean list of breeding birds is short (37 species breeding and seven occasionally nesting; Rodrigues et al. 2010), as a consequence of dramatic extinction events (Rando et al. 2013, Alcover et al. 2015, Rando et al. 2017), those publications added numerous records of non-breeding landbird and waterbird species, particularly occasional migrant and wintering species. Those novelties are a consequence of an increase in birdwatching activity on several Azorean islands and an increased interest in rare Nearctic birds arriving to Azores (Alfrey et al. 2018), due to storms that divert birds from their normal migratory routes.

Three coastal wetlands from the municipality of Praia da Vitória (Terceira Island, Azores, Portugal) - Paul da Praia da Vitória (PPV), Paul do Belo Jardim (PBJ) and Paul da Pedreira do Cabo da Praia (PPCP) – were studied during the LIFE – Coastal Wetlands Restoration Project and are known as a high avifauna site attracting birdwatchers and which include an important number of species (Dias et al. 1991, Morton et al. 1997, Morton et al. 1998, Melo and Dias 2005, Pereira and Melo 2017). Pereira and Melo (2017) published a field guidebook on the bird species occurring in PPCP, highlighting the particular importance of this wetland for migrant species and regular and occasional wintering birds.

This manuscript is the third contribution in a series of papers that characterise the biota of the three coastal wetlands from this area (Borges et al. 2018, Gabriel et al. 2019).
General description

**Purpose:** The aim of this work is to inventory the avifauna present in the three coastal areas of Praia da Vitória (Terceira Island, Azores), focused on the LIFE-CWR Project, Paul da Praia da Vitória (PPV) (Fig. 1), Paul do Belo Jardim (PBJ) (Fig. 2) and Paul da Pedreira do Cabo da Praia (PPCP) (Fig. 3), in order to improve our knowledge on the bird diversity that occurs in this area, detect eventual new species for the Azores and monitor seasonal and between-year variation on species abundance.

![General aspect of Paul da Praia da Vitória](image1.jpg)

**Figure 1.** General aspect of Paul da Praia da Vitória (Photo by Paulo A.V. Borges).

![General aspect of Paul Belo Jardim](image2.jpg)

**Figure 2.** General aspect of Paul Belo Jardim (Photo by Paulo A.V. Borges).
Project description

Title: Inventory of bird species in three coastal wetlands from Terceira Island (Azores)

Personnel: The inventory was conducted during five years between August 2013 and October 2018 by experienced birdwatchers: Sofia Goulart, Mariana R. Brito and Sónia Santos.

Study area description: Terceira Island (area: 400.6 km²; elevation: 1,021.14 m) is one of the nine islands of the Azores archipelago, located in the North Atlantic, roughly at 38° 43'49"N 27°19'10"W (Forjaz et al. 2004). The climate in the Azores is temperate oceanic, with regular and abundant rainfall, high levels of relative humidity and persistent western winds, mainly during the winter and autumn seasons (Azevedo et al. 1999).

Sampling methods

Study extent: This study covers a small coastal area with 3.58 km extension between PPV and PPCP.

Sampling description: At the three wetland sites, more than 788 days of observations were carried out for a total of ca. 11,820 h of direct observations. Each observation lasted 15 minutes in which every sighted bird was registered. These were made by experienced birdwatchers (two to three researchers in the field each day) using a Swarovski 20-60 telescope and Opticron Verano HD 10-42 binocular. Photographs were made with a Canon 60D camera (a database and Photo repository is available at http://lifecwr.com/index.php/
Whenever needed, several field-guides were used (e.g. Pereira 2010, Mullarney et al. 2012), as well as websites on Azorean birds, namely AVES DOS AÇORES, Azores bird sightings and Birding Azores.

**Geographic coverage**

**Description:** Praia da Vitória marshes, Terceira Island (Azores), Macaronesia, Portugal.

**Coordinates:** 38º42'09''N and 38º44'12''N Latitude; 27º03'46''W and 27º02'39''W Longitude.

**Taxonomic coverage**

**Description:** Aves

**Temporal coverage**

**Notes:** Data range: August 2013 – October 2018.

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**Data resources**

**Data package title:** LIFE_CWR_TER_Aves

**Resource link:** http://ipt.gbif.pt/ipt/resource?r=azores_birds

**Alternative identifiers:** http://islandlab.uac.pt/software/ver.php?id=34

**Number of data sets:** 1

**Data set name:** Birds from Praia da Vitória marshes (Terceira, Azores, Portugal)

**Download URL:** http://ipt.gbif.pt/ipt/resource?r=azores_birds

**Data format:** Darwin Core Archive

**Data format version:** version 1

**Description:** In this data table, we include all the records for which a taxonomic identification of the species was possible. The dataset submitted to GBIF is structured
as a sample event dataset, with two tables: event (as core) and occurrences. The data in this sampling event resource have been published as a Darwin Core Archive (DwCA), which is a standardised format for sharing biodiversity data as a set of one or more data tables. The core data table contains 2003 records. One extension data table also exists. An extension record supplies extra information about a core record. The number of records in each extension data table is illustrated in the IPT link. This IPT archives the data and thus serves as the data repository. The data and resource metadata are available for downloading in the downloads section. The versions table lists other versions of the resource that have been made publicly available and allows tracking changes made to the resource over time. In Suppl. material 1, we provide a simpler dataset with few columns in a single table.

| Column label       | Column description                                                                 |
|--------------------|------------------------------------------------------------------------------------|
| Table Event        | Table Event                                                                        |
| id                 | Unique identifier                                                                  |
| type               | Type of the record, as defined by the Public Core standard                          |
| licence            | Reference to the licence under which the record is published                        |
| InstitutionID      | The identity of the institution publishing the data                                 |
| InstitutionCode    | The code of the institution publishing the data                                     |
| datasetName        | Name of the dataset                                                                |
| eventID            | Identifier of the events, unique for the dataset                                    |
| eventDate          | Date or date range the record was collected                                         |
| startDayOfYear     | The earliest ordinal day of the year on which the Event occurred (1 for 1 January, 365 for 31 December, except in a leap year, in which case it is 366) |
| year               | Year                                                                               |
| month              | Month                                                                              |
| day                | Day                                                                                |
| islandGroup        | Archipelago of the sampling site                                                   |
| island             | Island of the sampling site                                                        |
| country            | Country of the sampling site                                                       |
| countryCode        | ISO code of the country of the sampling site                                        |
| county             | Name of the county                                                                 |
| locality           | Name of the locality                                                               |
| minimumElevationInMeters | Minimum elevation in metres                                               |
| maximumElevationInMeters | Maximum elevation in metres                                                |
| Column label                     | Column description                                                                                                                                 |
|---------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| verbatimCoordinates             | Original coordinates recorded                                                                                                                                 |
| decimalLatitude                 | Approximate centre point decimal latitude of the field site in GPS coordinates                                                                                                                                 |
| decimalLongitude                | Approximate centre point decimal longitude of the field site in GPS coordinates                                                                                                                                 |
| geodeticDatum                   | The reference point for the various coordinate systems used in mapping the earth                                                                                                                                 |
| Table Occurrences               | Table of Occurrences                                                                                                                                 |
| id                              | Unique identifier                                                                                                                                 |
| modified                        | Date of the last modification of the record                                                                                                                                 |
| language                        | A language of the resource                                                                                                                                 |
| basisOfRecord                   | The nature of the data record                                                                                                                                 |
| occurrenceID                    | Identifier of the record, coded as a global unique identifier                                                                                                                                 |
| catalogNumber                   | Record number of the specimen in the collection                                                                                                                                 |
| recordedBy                      | Name of the person who performed the sampling of the specimens                                                                                                                                 |
| individualCount                 | Total number of individuals captured                                                                                                                                 |
| organismQuantity                | Total number of individuals captured, as numeric                                                                                                                                 |
| organismQuantityType            | The unit of the identification of the organisms                                                                                                                                 |
| eventID                         | Identifier of the events, unique for the dataset                                                                                                                                 |
| identifiedBy                    | Name of the person who made the identification                                                                                                                                 |
| dateIdentified                  | Date on which the record was identified                                                                                                                                 |
| scientificName                  | Complete scientific name including author and year                                                                                                                                 |
| kingdom                         | Kingdom name                                                                                                                                 |
| phylum                          | Phylum name                                                                                                                                 |
| class                           | Class name                                                                                                                                 |
| order                           | Order name                                                                                                                                 |
| family                          | Family name                                                                                                                                 |
| genus                           | Genus name                                                                                                                                 |
| specificEpithet                 | Specific epithet                                                                                                                                 |
| infraspecificEpithet            | Infraspecific epithet, when available                                                                                                                                 |
| taxonRank                       | Lowest taxonomic rank of the record                                                                                                                                 |
| scientificNameAuthorship        | Name of the author of the lowest taxon rank included in the record                                                                                                                                 |
Additional information

We observed and identified 82,985 birds belonging to 26 families, including 108 species or subspecies. Families Scolopacidae (32 species) and Anatidae (24 species) were the most diverse while three species corresponded to 47.8% of all observed/identified birds (Table 1): Calidris alba (18,856), Charadrius alexandrinus alexandrinus (10,726) and Arenaria interpres (10,074). The Order Charadriformes, with 63,671 individuals observed, corresponds to 75.7% of all birds from this work (Table 1). This abundance of waders is certainly an expected feature on wetlands. Eleven species were represented by a single individual observation and 38 by ten or less individuals.

Table 1.
List of Aves and their abundance in the three coastal wetlands of Praia da Vitória, Terceira Island, Azores, Portugal (Paul da Praia da Vitória (PPV), Paul do Belo Jardim (PBJ) and Paul da Pedreira do Cabo da Praia (PPCP), indicating Order, Family and both breeding status (b) and colonisation status (END – endemic from Azores; MAC – endemic from Macaronesia; n = native non-endemic; i = introduced).

| Order       | Family   | Taxon                  | Status | PPV | PBJ | PPCP | Total |
|-------------|----------|------------------------|--------|-----|-----|------|-------|
| Anseriformes| Anatida  | Aix galericulata       |        | 1   | 1   |      |       |
| Anseriformes| Anatida  | Aix sponsa             |        | 1   | 1   |      |       |
| Anseriformes| Anatida  | Anas acuta             |        | 302 | 1   | 96   | 399   |
| Anseriformes| Anatida  | Anas americana         |        | 1237| 33  |      | 1270  |
| Anseriformes| Anatida  | Anas carolinensis      |        | 9   | 9   |      | 9     |
| Anseriformes| Anatida  | Anas clypeata          |        | 1   |     |      | 1     |
| Anseriformes| Anatida  | Anas crecca            |        | 94  | 235 | 329  |       |
| Anseriformes| Anatida  | Anas discors           |        | 117 | 147 | 264  |       |
| Anseriformes| Anatida  | Anas penelope          |        | 689 | 30  | 719  |       |
| Anseriformes| Anatida  | Anas querquedula       |        | 14  | 16  | 30   |       |
| Anseriformes| Anatida  | Anas strepera          |        | 22  |     | 22   |       |
| Anseriformes| Anatida  | Anser cygnoides        |        | 37  |     | 37   |       |
| Anseriformes| Anatida  | Aythya affinis         |        | 295 | 1   | 296  |       |
| Anseriformes| Anatida  | Aythya americana       |        | 27  |     | 27   |       |
| Anseriformes| Anatida  | Aythya collaris        |        | 531 | 6   | 38   | 575   |
| Anseriformes| Anatida  | Aythya ferina          |        | 12  | 3   | 15   |       |
| Anseriformes| Anatida  | Aythya fuligula        |        | 654 | 7   | 661  |       |
| Order            | Family      | Taxon                                  | Status | PPV | PBJ | PPCP | Total |
|------------------|-------------|----------------------------------------|--------|-----|-----|------|-------|
| Anseriformes     | Anatidae    | Aythya marila                          |        | 296 |     | 296  |       |
| Anseriformes     | Anatidae    | Branta bernicla                        |        | 7   | 3   | 10   |       |
| Anseriformes     | Anatidae    | Branta canadensis                      |        | 8   |     | 8    |       |
| Anseriformes     | Anatidae    | Bucephala clangula                     |        | 5   | 5   |      |       |
| Anseriformes     | Anatidae    | Clangula hyemalis                      |        | 4   |     | 4    |       |
| Anseriformes     | Anatidae    | Lophodytes cucullatus                  |        | 64  |     | 64   |       |
| Anseriformes     | Anatidae    | Tadorna tadorna                        |        | 14  |     | 14   |       |
| Charadriiformes  | Charadriidae| Charadrius alexandrinus alexandrinus   | b / n  | 7   | 529 | 10190| 10726|
| Charadriiformes  | Charadriidae| Charadrius hiaticula                   |        | 9   | 964 | 973  |       |
| Charadriiformes  | Charadriidae| Charadrius semipalmatus                |        | 2   | 124 | 126  |       |
| Charadriiformes  | Charadriidae| Pluvialis apricaria                    |        | 18  |     | 18   |       |
| Charadriiformes  | Charadriidae| Pluvialis dominica                     |        | 14  |     | 14   |       |
| Charadriiformes  | Charadriidae| Pluvialis fulva                        |        | 18  |     | 18   |       |
| Charadriiformes  | Charadriidae| Pluvialis squatarola                   |        | 225 | 2970| 3195 |       |
| Charadriiformes  | Charadriidae| Vanellus vanellus                      |        | 3   |     | 3    |       |
| Charadriiformes  | Haematopodida| Haematopus ostralegus                  |        | 1   |     | 1    |       |
| Charadriiformes  | Laridae     | Chroicocephalus philadelphia           |        | 1   |     | 1    |       |
| Charadriiformes  | Laridae     | Chroicocephalus ridibundus             |        | 95  | 425 | 71   | 591  |
| Charadriiformes  | Laridae     | Larus argentatus                       |        | 2   |     | 2    |       |
| Charadriiformes  | Laridae     | Larus delawarensis                    |        | 12  |     | 12   |       |
| Charadriiformes  | Laridae     | Larus fuscus                           |        | 153 |     | 153  |       |
| Charadriiformes  | Laridae     | Larus glaucoides glaucoides           |        | 13  |     | 14   |       |
| Charadriiformes  | Laridae     | Larus hyperboreus                      |        | 7   |     | 8    |       |
| Charadriiformes  | Laridae     | Larus marinus                         |        | 70  |     | 2    | 72   |
| Charadriiformes  | Laridae     | Larus michahellis atlantis            | b / END| 171 | 8893| 731  | 9795 |
| Charadriiformes  | Laridae     | Rissa tridactyla                      |        | 2   | 4   | 2    | 8    |
| Charadriiformes  | Scolopacidae| Actitis hypoleucus                    |        | 3   | 1   | 14   | 18   |
| Charadriiformes  | Scolopacidae| Actitis macularius                    |        | 3   |     | 3    |       |
| Charadriiformes  | Scolopacidae| Arenaria interpres                    |        | 7   |     | 10067| 10074|
| Charadriiformes  | Scolopacidae| Calidris alba                         |        | 5   | 370 | 18481| 18856|
| Order       | Family     | Taxon                          | Status | PPV  | PBJ  | PPCP Total |
|------------|------------|-------------------------------|--------|------|------|-------------|
| Charadriiformes | Scolopacidae | Calidris alpina              |        | 557  | 557  |             |
| Charadriiformes | Scolopacidae | Calidris bairdii              |        | 15   | 15   |             |
| Charadriiformes | Scolopacidae | Calidris canutus              |        | 902  | 902  |             |
| Charadriiformes | Scolopacidae | Calidris ferruginea           |        | 671  | 671  |             |
| Charadriiformes | Scolopacidae | Calidris fuscicollis          |        | 381  | 381  |             |
| Charadriiformes | Scolopacidae | Calidris mauri                |        | 2    | 2    |             |
| Charadriiformes | Scolopacidae | Calidris melanotos            |        | 98   | 98   |             |
| Charadriiformes | Scolopacidae | Calidris minuta               |        | 355  | 355  |             |
| Charadriiformes | Scolopacidae | Calidris minutilla            |        | 46   | 46   |             |
| Charadriiformes | Scolopacidae | Calidris pusilla              |        | 1    | 556  | 557         |
| Charadriiformes | Scolopacidae | Gallinago delicata           |        | 2    | 2    |             |
| Charadriiformes | Scolopacidae | Gallinago gallinago gallinago | b / n  | 1    | 22   | 23          |
| Charadriiformes | Scolopacidae | Limnodromus griseus          |        | 101  | 101  |             |
| Charadriiformes | Scolopacidae | Limnodromus scolopaceus      |        | 3    | 3    |             |
| Charadriiformes | Scolopacidae | Limosa lapponica             |        | 197  | 197  |             |
| Charadriiformes | Scolopacidae | Limosa limosa                |        | 1    | 2761 | 2762        |
| Charadriiformes | Scolopacidae | Numenius phaeopus hudsonicus |        | 6    | 6    |             |
| Charadriiformes | Scolopacidae | Numenius phaeopus phaeopus   |        | 21   | 474  | 495         |
| Charadriiformes | Scolopacidae | Phalaropus fulicarius        |        | 2    | 84   | 86          |
| Charadriiformes | Scolopacidae | Phalaropus lobatus           |        | 23   | 23   |             |
| Charadriiformes | Scolopacidae | Philomachus pugnax           |        | 629  | 629  |             |
| Charadriiformes | Scolopacidae | Tringa brevipes             |        | 15   | 15   |             |
| Charadriiformes | Scolopacidae | Tringa flavipes              |        | 2    | 79   | 81          |
| Charadriiformes | Scolopacidae | Tringa glareola             |        | 3    | 3    |             |
| Charadriiformes | Scolopacidae | Tringa nebularia            |        | 16   | 16   |             |
| Charadriiformes | Scolopacidae | Tringa totanus              |        | 2    | 210  | 212         |
| Charadriiformes | Scolopacidae | Tryngites subruficollis      |        | 2    | 2    |             |
| Charadriiformes | Sternidae   | Chlidonias leucopterus       |        | 1    | 1    |             |
| Charadriiformes | Sternidae   | Sterna dougallii dougallii   | b / n  | 1    | 1    |             |
| Order            | Family       | Taxon                        | Status | PPV | PBJ | PPCP | Total |
|------------------|--------------|------------------------------|--------|-----|-----|------|-------|
| Charadriiformes  | Sternidae    | Sterna hirundo hirundo       | b / n  | 91  | 376 | 275  | 742   |
| Charadriiformes  | Sternidae    | Thalasseu sandvicensis       |        | 2   |     |      | 2     |
| Ciconiiformes    | Ardeidae     | Ardea cinerea                |        | 713 | 8   | 35   | 756   |
| Ciconiiformes    | Ardeidae     | Ardeola ralloides            |        | 3   |     |      | 3     |
| Ciconiiformes    | Ardeidae     | Bubulcus ibis                |        | 2   | 3   |      | 5     |
| Ciconiiformes    | Ardeidae     | Egretta garzetta             |        | 67  | 19  | 25   | 111   |
| Ciconiiformes    | Threskiornithidae | Platalea lecorodoria         |        |     |     |      | 5     |
| Ciconiiformes    | Threskiornithidae | Plegadis falcinellus         |        |     |     |      | 9     |
| Columbiformes    | Columbidae   | Columba livia                | b / i  | 25  | 185 | 272  | 482   |
| Columbiformes    | Columbidae   | Columba palumbus azorica     | b / END| 76  | 43  | 5    | 124   |
| Columbiformes    | Columbidae   | Streptopelia decaocto decaocto| b / n | 1   | 8   | 127  | 136   |
| Coraciiformes    | Alcedinidae  | Megaceryle alcyon            |        | 5   |     |      | 5     |
| Falconiformes    | Accipitridae | Buteo buteo rothschildi      | b / END| 43  | 4   | 44   | 91    |
| Falconiformes    | Falconidae   | Falco tinnunculus            |        |     |     |      | 2     |
| Falconiformes    | Pandionidae  | Pandion haliaetus            |        | 1   |     |      | 1     |
| Galliformes      | Phasianidae  | Coturnix coturnix conturbans | b / n  | 10  |     |      | 10    |
| Gaviiformes      | Gaviidae     | Gavia immer                  |        | 5   | 1   | 6    |       |
| Gruiformes       | Rallidae     | Fulica atra                  | b / n  | 5077|     |      | 5077  |
| Gruiformes       | Rallidae     | Gallinula chloropus          | b / n  | 2930| 2   | 5    | 2937  |
| Passeriformes    | Emberizidae  | Plectrophenax rivalis        |        | 1   |     |      | 1     |
| Passeriformes    | Estrildidae  | Estrilda astrild             | b / i  | 367 | 18  | 147  | 532   |
| Passeriformes    | Fringillidae | Carduelis carduelis parva    | b / i  | 196 | 13  | 19   | 228   |
| Passeriformes    | Fringillidae | Serinus canaria canaria      | b / MAC| 61  | 136 | 88   | 285   |
| Passeriformes    | Hirundinidae | Hirundo rustica              |        | 9   |     |      | 9     |
| Passeriformes    | Motacillidae | Motacilla cinerea patriciae  | b / END| 4   | 35  | 65   | 104   |
| Passeriformes    | Passaridae   | Passer domesticus domesticus | b / i  | 164 | 61  | 347  | 572   |
| Passeriformes    | Sturnidae    | Sturnus vulgaris granti      | b / END| 151 | 41  | 339  | 531   |
| Passeriformes    | Sylviidae    | Sylvia atricapilla gularis   | b / END| 22  | 13  | 35   |       |
| Passeriformes    | Turdidae     | Erithacus rubecula rubecula  | b / n  | 1   |     |      | 1     |
| Passeriformes    | Turdidae     | Turdus merula azorensis      | b / END| 1950| 72  | 176  | 2198  |
Of all observed species, three are not referred to in Barcelos et al. (2015), which is the most recent update on the list of Azorean birds: *Aythya americana* (Eyton 1838), *Chlidonias leucopterus* (Temminck 1815) and *Tringa brevipes* (Vieillot 1816). One species is a new record for Terceira Island: *Lophodytes cucullatus* (Linnaeus 1758). *Aythya americana* is a Nearctic occasional migrant duck, *Chlidonias leucopterus* is a Palearctic tern and *Tringa brevipes* is a shorebird breeding in northeast Siberia. All other species have previously been recorded at several levels of relative abundance, both as breeding native (ten taxa), breeding Azorean endemic (seven taxa), breeding Macaronesian endemic (one taxon), breeding introduced (four taxa) and vagrant (87 additional taxa) (Table 1). About 15 out of the 21 breeding species are common with more than 100 individuals recorded in the three sites. Based on the Barcelos et al. (2015) classification of vagrant species, in the three sites we found: 45 occasional migrants, 21 regular migrants, 17 occasional wintering taxa and 26 regular wintering taxa. The Palearctic taxa dominate the community of birds (52 taxa), whereas Holarctic (28 taxa) and Nearctic (25 taxa) have similar but with half of the frequency.

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**Author contributions**

EN conceived the original Project. JPB and PAVB conceived and drafted the manuscript. SG, MRB, SS and CP collected the data and identified the species. PAVB organised the final database. All the authors revised and contributed to the final text.

| Order         | Family         | Taxon                  | Status | PPV | PBJ | PPCP | Total |
|---------------|----------------|------------------------|--------|-----|-----|------|-------|
| Procellariiformes | Procellariidae | *Calonectris borealis* | b / n  | 1   |     |      | 1     |
| Abundance     |                |                        |        | 16663| 11793| 54529|       |
| Species Richness |                |                        |        | 55  | 40  | 85   |       |
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Supplementary material

Suppl. material 1: LIFE_CWR_Birds  doi

Authors: Goulart S et al.

Data type: Occurrences and abundances

Brief description: In this contribution, we present detailed data on the distribution and abundance of species belonging to several groups of arthropods in three Terceira island (Azores) wetlands: Paul da Praia da Vitória (PPV), Paul do Belo Jardim (PBJ) and Paul da Pedreira do Cabo da Praia (PPCP).

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