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NOTES ON DISTRIBUTION, CONSERVATION, AND TAXONOMY OF BIRDS FROM THE CAPE VERDE ISLANDS, INCLUDING RECORDS OF SIX SPECIES NEW TO THE ARCHIPELAGO

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ABSTRACT

Recent data on the distribution of birds in the Cape Verde Islands are presented, including records of six species new to the archipelago, viz. Pintail *Anas acuta*, Least Sandpiper *Calidris minutilla*, Snipe *Gallinago gallinago*, Red-rumped Swallow *Hirundo daurica*, African Sand Martin *Riparia paludicola*, and Song Thrush *Turdus philomelos*. Also included are data on extensions in range and time within the islands of migrant visitors as well as observations of rare and threatened resident species. Extralimital records of migrant Cape Verde seabirds are summarized and news and views relating to the conservation of threatened endemic taxa are discussed. In addition, some recent studies bearing on the systematics of endemic Procellariids are reviewed.

INTRODUCTION

This is the second supplement to *The birds of the Cape Verde Islands* (Hazevoet 1995), an earlier update being presented by Hazevoet *et al.* (1996). With few exceptions, the present contribution concerns data collected in 1996. It includes reports of six species new to the archipelago, viz. Pintail *Anas acuta*, Least Sandpiper *Calidris minutilla*, Snipe *Gallinago gallinago*, Red-rumped Swallow *Hirundo daurica*, African Sand Martin *Riparia paludicola*, and Song Thrush *Turdus philomelos*. Other additions to the Cape Verde avifauna have been reported by Hazevoet (1996a) and Hazevoet *et al.* (1996). This brings the total number of bird species reliably reported from the islands at 154, excluding two introduced species that may have established populations in recent years, i.e. Ring-necked Parakeet *Psittacula krameri* and Village Weaver *Ploceus cucullatus*. The number of birds known to have occurred in the Cape Verde Islands is only modest but, since interest in the islands has grown considerably in recent years, it is expected that 'new' species will continue to be reported. More specifically, several passerines, commonly wintering in West Africa but still unrecorded in the Cape Verdes, are

among the species to be expected and visits during migration seasons will continue to be worthwhile in this respect. Records of new species reported herein have been scrutinized by the author in consultation with members of the Dutch rarities committee.

In 1996, some remarkable events took place in relation to the occurrence of migrant birds in the Cape Verde Islands. Early in the year, heavy rains occurred on the otherwise arid island of Sal, causing the flooding of ribeiras and the formation of a temporary lake near the mouth of Ribeira da Madama. This attracted several rare species, including ducks and gulls, offering an unusual sight on this desert island and demonstrating that some birds may react rapidly when favourable conditions occur, luring even species seldom or never seen there before to these remote oceanic islands. By mid April, however, the 'lake' was gone and the island returned dry as ever. A comparable situation was observed on Santiago in November 1988, when heavy showers filled the Pedra Badejo lagoons with water, mud, and debris, attracting unusually large numbers of waders (Hazevoet 1992a).

An influx of migrant hirundines occurred on Sal during

the second week of April. For days the island was invaded by hundreds of Swallows *Hirundo rustica* and lesser numbers of House Martins *Delichon urbica*. Accompanying these were at least one Red-rumped Swallow *H. daurica* and several African Sand Martins *Riparia paludicola*. Terra Boa, an agricultural area in the north of the island, offered special attraction to the birds, with large numbers feeding over the fields and using the dry corn as a roost. Within a week, however, the majority of these hirundines had left the island and numbers were back to normal for the time of year, with a few seen every now and then. It is remarkable that such large mixed flocks occur far off continental Africa.

Thanks to the efforts of two dedicated Dutch bird watchers, Theo Bakker and Klaas van Dijk, who visited the islands in search of endemics and to conduct wader counts (see Bakker & van Dijk 1996, van Dijk & Bakker 1997), the first recoveries of colour marked birds in the Cape Verde Islands were obtained. Details are given under the relevant species entries in 'Notes on distribution'. Also incorporated in 'Notes on distribution' are extralimital records (both published and unpublished) of migratory Cape Verde Procellariids. Topics relating to the conservation of threatened Cape Verde birds are discussed in 'Notes on conservation' and some recent studies on the phylogeny of Procellariids, bearing upon the systematics of Cape Verde endemics, are reviewed in 'Notes on taxonomy'.

NOTES ON TAXONOMY

A recent phylogenetic study of *Pterodroma* petrels using mitochondrial cytochrome *b* gene sequences (Nunn & Zino in press) showed that traditional classification of North Atlantic taxa as close relatives of southern *P. mollis* (either at the 'subspecies' level or as members of a so-called 'superspecies') accounts for a paraphyletic taxon. In two most parsimonious trees, four North Atlantic taxa (*hasitata*, *cahow*, *feae*, *madeira*) clustered on a clade separated from *P. mollis* by another clade made up of southern taxa (*magentae*, *incerta*, *lessonii*, *macroptera*). These two clades constituted the sister group of *P. mollis*, the latter being basal to the others. This implies a rather different phylogenetic and zoogeographical history than traditional classification suggests and shows that it is no longer tenable to assign *P. feae* and *P. madeira* to the '*P. mollis* species group' (cf. Hazevoet 1995, 1996b). The above example offers just another case in which traditional allocation of 'subspecies' (or species) into a 'polytypic' species (or 'superspecies') has given rise to a paraphyletic (i.e. non-historical) taxon. Such long-standing taxonomic practice has been based on phenetic assessments of similarity in combination with speculations about the 'potential' ability for gene exchange, in order to fulfil the requirements of the isolation (Mayrian or 'biological') concept of species. This has driven many unique and rare island forms into the obscurity of the 'subspecies' category, an allocation which offers little security in terms of conservation policy because trinomials are usually considered irrelevant by decision

makers in conservation biology (Hazevoet 1996b).

Because Nunn & Zino's (in press) study did not include *P. feae* sensu stricto (i.e. the Cape Verde taxon) but only *P. feae* sensu lato (by way of a sample of *deserta* from the Deserta islets), the taxonomic status and phylogenetic relationship of *feae* (Cape Verde Is.) and *deserta* (Deserta Is.) remains unsettled. Although *feae* and *deserta* have often been considered morphologically indistinguishable (i.e. only differing in the means of certain morphometric dimensions, mainly bill-depth), a further cladistic analysis should include both taxa, in addition to the other North Atlantic *Pterodroma* petrels, in order to clarify their relative position within this apparently monophyletic group.

Bretagnolle (1995) made a phenetic assessment of similarity in vocalizations and morphometrics in the '*Pterodroma mollis* complex' and concluded that two 'polytypic' species should be recognized, viz. *P. mollis* and *P. feae*, the latter including *feae*, *deserta* and *madeira*. As Bretagnolle (1995) did not discriminate between plesiomorphic and apomorphic character states and neither employed outgroup comparison, his data may perhaps aid in diagnosing different taxa but, as he duly admitted, his study "did not greatly improve the understanding of the systematics of the *P. mollis* complex".

Austin (1996) conducted a phylogenetic analysis of 19 taxa of *Puffinus* shearwaters, with *Fulmarus glacialis* as the outgroup, based on mitochondrial cytochrome *b* gene sequences. As in the *Pterodroma* petrels, several traditionally recognized 'polytypic' species were shown to be paraphyletic. Austin (1996) employed 'specific' and 'subspecific' nomenclature without commenting on the paraphyly of these traditional groupings. As the inclusion of taxa in any higher taxonomic category (including so-called 'polytypic biological species') should imply a hypothesis of monophyly, certain nomenclatural consequences must be drawn from Austin's (1996) study, providing that we want taxonomic allocations and nomenclature to have any meaning at all, a preamble perhaps not supported by followers of the isolation view of species. These nomenclatural changes do not merely concern ranking issues (such as the 'splitting' and 'lumping' practices encouraged by the isolation view of species) but rather the elimination of paraphyletic taxa. For instance, the phylogeny of *Puffinus puffinus*, *P. yelkouan*, and *P. mauretanicus* (formerly treated as 'subspecies' of a 'polytypic' species *P. puffinus*) shows that elevating ('splitting') *yelkouan* to species rank because of its 'sufficiently' differentiated morphology but at the same time retaining ('lumping') *mauretanicus* as a 'subspecies' in a 'polytypic' species *P. yelkouan*, as advocated by Bourne *et al.* (1988) and Wink *et al.* (1993), is just as misleading as the traditional inclusion of these taxa in a paraphyletic 'polytypic' *P. puffinus*. Because all these taxa are allopatric, considering them conspecific in whatever combination merely boils down to speculations about their 'potential' ability for gene exchange. However, whether or not these taxa have retained the capacity for gene exchange is irrelevant because this would merely indicate a symplesiomorphic condition (shared ancestral trait)

which is phylogenetically uninformative. Moreover, not a single example of gene exchange between any of these taxa has ever been documented. As amply demonstrated by Altaba (1993), there does not exist a priori reason to consider these three taxa to be conspecific because each constitutes a diagnosably distinct taxonomic entity in its own right. Indeed, in each tree (maximum likelihood, maximum parsimony, neighbor-joining), *P. puffinus* figures in a clade remote from the *P. yelkouan*-*P. mauretanicus* clade, in which the latter are sister taxa (Austin 1996: Fig. 4). A cladistic analysis of osteological data of both Recent and extinct Plio-Pleistocene taxa from the Balearic and Canary Islands (see Alcover 1989, McMinn *et al.* 1990, Walker *et al.* 1990) should further improve our understanding of the phylogenetic relationships among Atlantic-Mediterranean *Puffinus* shearwaters and may corroborate Austin's (1996) molecular study through an independent data set providing congruence of phylogenetic hypotheses.

Although the three *Puffinus* shearwaters discussed above do not breed in the Cape Verde Islands and only two of them (*puffinus* and *mauretanicus*) are occasional migrant visitors in Cape Verde seas, their phylogeny does bear on the taxonomy and systematic position of the single breeding representant of the genus in the islands, the Cape Verde Little Shearwater *P. boydi*. Traditionally, *boydi* has been treated as a 'subspecies' of either *P. lherminieri* or *P. assimilis* (e.g. Murphy 1927, Cramp & Simmons 1977), while other authors have advocated the 'lumping' of *P. lherminieri* and *P. assimilis* (together encompassing c. 20 'subspecies') into a single multitypic 'species' (e.g. Vaurie 1965, Bourne 1986). The rationale behind such proposals has been devoid of phylogenetic reasoning but seems to be inspired by the so-called 'intermediacy' of some of the taxa involved in combination with a longing for 'taxonomic convenience'. Thus, Vaurie (1965) found that *boydi* and *baroli* (Azores, Madeira, Selvagens, Canary Is.) are 'intermediate' (in unspecified characters) between *lherminieri* and *assimilis* and, therefore, "found it wiser [...] to recognize only a single species", while Bourne (1986), because of the fact that "confusion has prevailed", thought it to be "the best solution to combine them all into one species". Such 'solutions' appear to be acts of defeatism and despair rather than serious attempts at unravelling the phylogeny of the small shearwaters and for decades these and similar actions have clouded our understanding of real-world biodiversification. If solutions at all, they can only be regarded as temporary ones, pending further data and improved methods that will assist in elucidating the phylogenetic relationships of these cryptic taxa.

In three phylogenetic trees (ml, mp, nj), *lherminieri* (West Indies), *baroli* and *boydi* branch on a clade constituting the sister group of *puffinus* and *newelli* (Hawaii), while *assimilis* (Lord Howe Is.) and *aurakiensis* (New Zealand) are the sister group of the former two clades (Austin 1996: Fig. 4). In an additional study, *bailloni* (Réunion) was added to the 19 taxa of the earlier analysis. This taxon has been treated traditionally as a 'subspecies' of *P. lherminieri* but this allocation is incompatible with branching order

because *bailloni* is the sister taxon of *yelkouan-mauretanicus*, a clade basal to a larger one that encompasses other small shearwaters and *puffinus-newelli* (J.J. Austin unpublished data).

With the possible exception of some that have been separated on account of differences in the means of various morphometrics, most of the c. 20 taxa of small shearwaters, traditionally treated as 'subspecies' of either *P. lherminieri* or *P. assimilis*, are distinct in qualitative characters. Their inclusion in one or two 'polytypic' species pretends knowledge of their phylogenetic affinities that has, however, simply been lacking and is only emerging for a few of the taxa involved. It is becoming increasingly clear that 'polytypic' *P. lherminieri* and *P. assimilis* constitute paraphyletic assemblages. In order to provide conditions for a meaningful phylogenetic analysis, it will be necessary to delimit taxa which are diagnosably distinct in qualitative characters without ad hoc inferences about their taxonomic affinities and refer to them binomially.

The main conclusion to be drawn from the phylogenetic studies discussed above must be that there exists no correlation between the 'polytypic' species in which various taxa of petrels and shearwaters have been included and their real-world phylogeny. This lends further support for the use of a phylogenetic approach to species-level taxa (e.g. Nixon & Wheeler 1990, Davis & Nixon 1992, Baum & Shaw 1995, Zink & McKittrick 1995, Davis 1996) and for abandoning the isolation view of species. During the last decades, it has become abundantly clear that the latter, due to its non-dimensional properties and inapplicability in allopatric situations, hampers the recognition and understanding of historical patterns of biological diversification at the 'species' level to a devastating degree. Under the paradigm of the isolation view of species, taxa are 'intuitively' (i.e. based on phenetic assessments of overall resemblance and/or genetic distance) included in one or another 'polytypic' species. In avian taxonomy, this has led to an abundance of paraphyletic taxa which are in direct conflict with contemporary systematic theory and methodology.

NOTES ON CONSERVATION

Numbers of seabirds in the Cape Verdes have been greatly reduced due to the constant persecution by local fishermen, who harvest eggs and young for food and destroy adults without particular purpose. The populations of Red-billed Tropicbird *Phaethon aethereus* and Brown Booby *Sula leucogaster* are estimated to have declined from c. 1,000 and c. 10,000 during the late 19th century to c. 100 and c. 1000 respectively today (Hazevoet 1994, 1995). According to old sources, the Magnificent Frigatebird *Fregata magnificens* was still widespread during the 19th century and colonies, now disappeared, probably existed on Ilhéu dos Pássaros (off São Vicente), Ilhéu de Rabo de Junco (off Sal) and elsewhere in the archipelago (see Hazevoet 1994, 1995). Today, breeding is restricted to two islets off Boavista and only about five pairs are left.

The traditional annual harvest of young Cape Verde Shearwaters *Calonectris edwardsii*, which are taken from

the nest just before fledging in October-November, has brought the total population down to c. 10,000 pairs. It is estimated that even today 4,000-6,000 young are taken every year. Although it is difficult to reconstruct former numbers, old sources indicate that the species was once much more abundant. Apart from the Little Shearwater *Puffinus boydi*, the smaller Procellariids are not actively persecuted but at times their colonies suffer greatly from the trampling of nesting burrows by fishermen who search the islets' shores for shell-fish and debris.

In 1990, some of the important sites for breeding seabirds in the Cape Verde Islands were declared nature reserves by law and, according to the law, access to and utilization of these reserves are now subject to governmental authorization. Areas to which the law applies include the islets of Raso, Branco, Ilhéus do Rombo, Ilhéu de Curral Velho, and Ilhéu de Baluarte. Despite the legally protected status of some islets, the massacres among seabirds continue as before, there being no effective means (or intention) to enforce the law. During the years 1988-1992, the author found the remains of numerous slaughtered Red-billed Tropicbirds and Brown Boobies on Raso, and large piles of feathers and wings of culled young Cape Verde Shearwaters had accumulated on both Raso and Branco. In March 1996, remains of 72 adult Red-billed Tropicbirds and 58 adult Brown Boobies were found on Raso, apparently killed for 'sport' by fishermen (Bakker & van Dijk 1996). In February 1994, a dog was encountered on Raso, apparently brought to the islet by fishermen (C.G. Goblet *in litt.* 1994). Dogs are a potentially disastrous threat to ground breeding species such as the endemic Raso Lark *Alauda razae* and may also take their toll among seabirds, particularly the boobies.

A recently published Cape Verde cooking book (J.P. Chantre d'Oliveira 1996, *Santo Antão - cozinha regional*) includes recipes for *cagarra assada* (roasted shearwater) and *codorniz frita* (fried quail). We are also informed that among other Santo Antão specialities *bioro* (= *Pterodroma feae*) and *pedrer* (= *Puffinus boydi*) are especially recommended. Thus, while on the one hand much energy is directed to prevent these endemic species from being exterminated, on the other hand it is apparently not considered an assault of civil conduct to promote the consumption of these threatened birds. Typically, in the *Guia Turístico Oficial* (Official Tourist Guide), sea turtle eggs and meat are recommended among the gastronomic specialities of the island of Maio. Moreover, in 1996, souvenirs made of sea turtle products were still on sale at Sal international airport while also being advertized by the local carrier TACV. This is, of course, in flagrant conflict with international legislation on the trade in sea turtle products.

Another matter of concern relates to the alarming decline of raptors in the Cape Verde Islands, particularly the endemic kite *Milvus fasciicauda* and buzzard *Buteo bannermani* (Hazevoet 1992c, 1996c). These two species now only number some tens of pairs each and will soon be on the brink of extinction, if not already. In recent years, it has become clear that this disastrous development is

largely due to a single cause. In the Cape Verdes, feral dogs are common in and around villages and towns. In order to reduce their numbers, it is common usage to lay out poisoned meat. From time to time, large numbers of poisoned dogs (up to 50 at a time) are collected and dumped in the countryside. The destructive effect of this practice on raptors will be obvious. If not killed directly by eating the poisoned meat, kites, buzzards, and Egyptian Vulture *Neophron percnopterus* (also declining at an alarming rate) will succumb from scavenging on dead dogs. Even if not affected directly, the effect on breeding success may be fatal, with decreased fertility being among the most obvious consequences. Indeed, infertile eggs of Cape Verde Buzzard have been reported as long ago as the 1960s (de Naurois 1969, 1973) and the situation seems to have only worsened since. If the endemic raptors of the Cape Verde Islands are to be saved from extinction, the practice of poisoning feral dogs has to be stopped at once, an objective probably not easily achieved in view of the general indifference towards conservation issues in the islands.

During the last decade, much effort has been directed at the implementation of programmes (both educational and legislative) aimed at the preservation of the remaining natural heritage of the Cape Verdes (e.g. Hazevoet & Haafkens 1990, Miller 1993, Hazevoet 1994). However, there is still a long way to go before an effective level of sensibility about conservation issues has been reached among both the general public and administrators of the country. Recently, the *Primeira Lista Vermelha de Cabo Verde* (First Red List of the Cape Verdes) has been published (Leyens & Lobin 1996), presenting basic data on all taxa of threatened native plants, invertebrates, and vertebrates. This provides the responsible Cape Verde agencies with an indispensable source of information for the implementation of an effective conservation strategy. Clearly, if some of the endemic and other threatened taxa are to be saved from extinction, a substantially more active attitude by the Cape Verde authorities is warranted.

NOTES ON DISTRIBUTION

In the following 'Notes on distribution', records of migrants, considered vagrants in the past but now known to be regular visitors (e.g. Little Stint *Calidris minuta*, Bar-tailed Godwit *Limosa lapponica*, Redshank *Tringa totanus*, Wood Sandpiper *T. glareola*, Black-headed Gull *Larus ridibundus*), have not been included, except in those cases when time of year, locality, or number of birds diverged from the known pattern of distribution as summarized by Hazevoet (1995). Equally, records of some rare and threatened resident species (e.g. Magnificent Frigatebird *Fregata magnificens*, Cape Verde Kite *Milvus fasciicauda*) have not been included when these concerned usual sites and numbers. However, in view of the importance of long-term monitoring of both migrants and residents, observers are asked to continue to submit all records.

When no source is given for general data, such as the number of Cape Verde records, spatial and temporal distri-

bution within the archipelago, population size, etc., these have been taken from Hazevoet (1995), with additions in Hazevoet *et al.* (1996). For general information on geography, climate, habitats, etc., the reader is referred to Hazevoet (1995). Species new to the Cape Verde Islands are marked with an asterisk. Observers are referred to by their initials as follows: TJB (Theo J. Bakker), KvD (Klaas van Dijk), CJH (Cornelis J. Hazevoet), FWW (Frederick W. Wenzel), HHW (Hans-Hinrich Witt).

Cape Verde Petrel *Pterodroma feae*

During a seaway on Santo Antão (16:30-18:15), > 100 Cape Verde Petrels were counted off Vila da Ribeira Grande, 8 March 1996, while earlier that day at least 20 were seen off Ponta do Sol (TJB, KvD). Views (using a telescope) were good and on several occasions these petrels could be compared directly to Cape Verde Shearwater *Calonectris edwardsii*, of which > 100 were counted as well. During late afternoon of 14 and 16 March 1996, 10+ Cape Verde Petrels were seen off Estância Bras, along the northern coast of São Nicolau (TJB, KvD). Only few observations of *P. feae* from Cape Verde seas have been published. Lambert (1980), while cruising among the islands in April 1976, identified three main areas in which the species was encountered, viz. 1) around the islands of Santo Antão and São Vicente, and eastwards to Santa Luzia, 2) from the south of Boavista to Maio and the southwest of Santiago, and 3) around Fogo, Brava, and the Ilhéus do Rombo. Usually 1-3 birds were seen, with the largest number together (eight) off the northwest coast of Santo Antão. Away from these three areas the species was only rarely seen. The general pattern of distribution reported by Lambert (1980) agrees with that found during seven pelagic trips in Cape Verde seas, December-March, in the years 1985-1989 (M.A.S. Beaman, C.J. Camphuysen, C.J. Hazevoet, S.C. Madge, R.P. Martins, K.M. Morgan unpublished data).

The increase in records of *Pterodroma* petrels (including birds possibly referable to *P. feae*) in the North Atlantic during the last decades has provoked considerable debate as to the specific identity and geographic origin of these birds but no consensus seems to have been reached so far (e.g. Haney *et al.* 1993, Tove 1993, 1994, Zonfrillo 1994, Gantlett 1995). Most of the reports off eastern North America (c. 20) were in late spring (May-June) but, in contrast, most reports off western Europe (also c. 20) were in late summer and autumn, mainly August-September, with a few in October-November (Lee 1984, Bourne 1992, Costa & Farinha 1994, Moore 1994a, Stegeman *et al.* 1995, DeBenedictis 1996). Because of the uncertainties surrounding the identification of these petrels, it is impossible to say at present whether this temporal and spatial pattern of records reflects the true migration scheme of a particular taxon or is only an artifact resulting from identification problems. Consequently, the pelagic distribution of Cape Verde Petrel remains largely unknown. Even if North Atlantic records could be assigned to *P. feae* with any

degree of confidence, it would still be possible that these birds originated from Bugio islet, off Madeira, or from the Azores, where the existence of a small and formerly overlooked population of *Pterodroma* petrels, closely resembling *P. feae*, is suspected (see Bibby & del Nevo 1991, Monteiro & Furness 1995). Individuals from these populations and from the Cape Verdes would be indistinguishable at sea.

Re-examination of a specimen found dead in Israel in February 1963 and formerly assigned to *P. feae* (Bourne 1983), indicated that this actually concerns *P. mollis* of the southern oceans (B. Zonfrillo *in Shirihai* 1996).

Bulwer's Petrel *Bulweria bulwerii*

A total of 19 dead Bulwer's Petrels were found scattered over the islet of Raso, 12-13 March 1996 (TJB, KvD). In view of their desiccated condition, most had apparently been dead for quite a long time and there was no indication that these birds had been deliberately slaughtered. No other reports of Bulwer's were received. The only known breeding stations in the Cape Verdes are on Ilhéu de Cima and Raso. The total number of breeding pairs has been difficult to establish but probably does not exceed some hundreds of pairs.

Cory's Shearwater *Calonectris diomedea*

One was seen from the ferry boat between São Vicente and Santo Antão, 7 March 1996 (TJB, KvD). There are only few records from Cape Verde seas, probably largely because many earlier observers did not distinguish between *C. diomedea* and *C. edwardsii*. It seems probable, however, that *C. diomedea* (sensu lato, viz. *C. diomedea* and *C. borealis*) is a regular passage migrant in these waters. So far, all observations have been made in February-March, presumably of birds returning to breeding grounds in the East Atlantic (*borealis*) and Mediterranean (*diomedea*) from their wintering quarters in the South Atlantic.

Cape Verde Shearwater *Calonectris edwardsii*

Of 38 shearwaters *Calonectris* spp. observed during five pelagic trips approximately 30 km west of Pointe des Almadies, Sénégal, 12-21 October 1995, all seen well enough (20+) were *C. edwardsii* (R.F. Porter). During observations in the same area, 6-16 October 1996, a total of 3,039 *C. edwardsii* were counted, with maxima of c. 1,700 and c. 1,000 around fishing trawlers on 9 and 11 October respectively (R.F. Porter). The numbers observed in October 1996 imply that c. 10% of the postbreeding population was present in the area at the time. Postbreeding dispersal from the Cape Verdes is thought to take place mainly from late October to mid November but the observations off Sénégal may indicate that considerable numbers leave the colonies from early October onwards. Alternatively, the concentration of birds may

have consisted of adults attracted to the rich feeding grounds of the Sénégal upwelling zone. According to Jouanin *et al.* (1995), *Calonectris* spp. may feed up to 500 km from the breeding grounds and the birds off Sénégal may have been adults with young at the nest.

Three shearwaters at 38°36'S, 53°30'W, off Argentina, 18 February 1992, were considered to be *C. edwardsii* (Curtis 1994). This part of the South Atlantic is known to be a main wintering quarter of *C. borealis* (Mougin *et al.* 1988). The southernmost observation of *C. edwardsii* to date was at 24°36'S, 25°48'W (Hazevoet 1995) and, providing that the birds were correctly identified, the record off Argentina would imply a considerable southward extension of the species' (poorly known) wintering range.

Great Shearwater *Puffinus gravis*

One was photographed c. 7 km east-southeast of Santa Maria, Sal, 17 February 1990 (FWW). So far, the majority of records in Cape Verde seas were in September, with one each in October, November, and December. Autumn records are in agreement with the general pattern of occurrence at these eastern Atlantic latitudes (cf. Voous & Wattel 1963, Bourne 1995). The height of the breeding season in the Tristan da Cunha group, South Atlantic, is from December-March (Rowan 1952). The present record shows that at least some non-breeding birds (presumably immatures) stay away from the colonies during the breeding season.

Cape Verde Little Shearwater *Puffinus boydi*

At Pointe des Almadies, the westernmost point of Sénégal, 57 small shearwaters were counted from the shore, 6-16 October 1996, but none were seen during three pelagic trips in the area. The offshore birds allowed for very close views to be obtained, enabling their identification as *boydi* because of the dark head to at least eye level where it merged with the white on the face, quite unlike the white face and isolated eye of northern Macaronesian *baroli* (R.F. Porter).

A stray bird found alive at the Kruger National Park, eastern Transvaal, South Africa, 15 September 1988 (specimen in the Transvaal Museum; Berruti 1990), has been claimed to be referable to *P. boydi* (Shirihai *et al.* 1995). If indeed correctly identified, its inland appearance in southern Africa seems extraordinary, particularly because there had been no major weather event that may have caused it to be blown inland (Berruti 1990). Cape Verde Little Shearwater was not among the taxa of small shearwaters identified in South African seas or washed ashore there previously (Sinclair *et al.* 1982) and a further examination of the Transvaal specimen seems warranted. Another small shearwater of unsettled taxonomic affinities, but possibly referable to *boydi*, has been caught on St. Helena in February 1976 (Bourne & Loveridge 1978). Apart from the recent offshore observations in Sénégal, no conclusive records of *P. boydi* are known away from the

Cape Verde area, although small shearwaters of unknown provenance are widespread in the tropical Atlantic.

Red-billed Tropicbird *Phaethon aethereus*

The following observations were reported in 1996. On Sal, a maximum of nine were present at the cliffs opposite Ilhéu de Rabo de Junco, along the island's west coast, entering holes and presumably breeding, 9 April-8 May (CJH, FWW). At Ponta da Fragata, an only recently reported breeding site along the southeast coast of Sal (Hazevoet *et al.* 1996), up to nine birds were seen with some sitting in cliff-holes, 12 April (CJH, FWW). On Boavista, a maximum of eight were counted at sea off Sal Rei, 21-22 March (TJB, KvD), one was seen there, 15 April (FWW), and 4-5 off Ponta do Sol (c. 5 km north of Sal Rei), 20 April (R. Clark), providing further evidence for the existence of a breeding site in the Ponta do Sol area, along the northwest coast of the island (cf. Hazevoet *et al.* 1996). On Santiago, 10 were present at the cliffs just east of Praia harbour (a long established breeding site), 25 March (TJB, KvD). On Raso, 40-50 were counted offshore and in the colony along the southern coast, 12-13 March (TJB, KvD). No information was received from other colonies on Santiago and those on Ilhéus do Rombo and Brava.

Brown Booby *Sula leucogaster*

On Raso, 150-200 birds were counted along the south coast and in the colony, 12-13 March 1996 (TJB, KvD). As in 1995, no breeding boobies were found at Ilhéu de Rabo de Junco, Sal, in April-May 1996 (CJH). Apparently, this former breeding site has now been completely wiped out. No information was received from colonies on Boavista, Santiago, Ilhéu de Cima, and Brava.

Cattle Egret *Bubulcus ibis*

A large roost was situated in bushes near the sewage farm on São Vicente, where a maximum of 540 birds were counted, 9-10 March 1996 (TJB, KvD). The largest roost reported so far was at Vila da Ribeira Brava, São Nicolau, with c. 250 birds in March 1990 and March 1992. Breeding Cattle Egrets have not been reported since the late 1960s but the species has been recorded in the islands in all months, with numbers peaking March-April. Presumably, birds in the Cape Verde Islands are migrants from the West African mainland. In Mauritania and Senegambia breeding occurs mainly from June to October (Lamarche 1988, Morel & Morel 1990), during which months only small numbers are present in the Cape Verdes. The few breeding records in the islands were in February and November.

Western Reef Heron *Egretta gularis*

On Santiago, Western Reef Herons were seen at Praia, 4-5 March (2) and 25-26 March, and at the Pedra Badejo

lagoons, 26 March 1996 (TJB, KvD). There were only two records before 1986 but the species is apparently a regular Afrotropical visitor in small numbers. There are now 10 records, February-September, from the islands of Santiago, Boavista, and Maio. All reports concerned dark morph birds and the possibility remains that white morph birds have been erroneously assigned to Little Egret *E. garzetta*.

Little Egret *Egretta garzetta*

A ringed bird with wing tags was observed at Rabil lagoon, Boavista, 21-22 March 1996 (TJB, KvD). It had been ringed and marked as a nestling near Aigues-Mortes, Camargue, France (43°34'N, 04°11'E), 6 July 1995 (data Station Biologique Tour du Valat). Little Egret is a not uncommon resident breeder in the Cape Verdes and this is the first confirmed record of a northern migrant visitor, the occurrence of which had been based on conjecture only. In West Africa, Little Egrets ringed in the Camargue have been recovered in The Gambia, Mali, and Ghana, birds from Spain in Mauritania and Sénégal, and birds ringed in Tunisia and Ukraine in Sierra Leone and Mali respectively (Voisin 1985).

Intermediate Egret *Egretta intermedia*

Two were present along Rabil lagoon, Boavista, 20-22 March 1996, and both birds were photographed (TJB, KvD). There are now five records (October-May), involving c. 12 birds, from the islands of Santiago (2), Santo Antão, Sal, and Boavista, and the species appears to be an irregular and uncommon Afrotropical migrant visitor.

Grey Heron *Ardea cinerea*

One at Ponta Preta beach, along the southwest coast of Sal, 6 April 1996 (FWW, R. Clark). Although the species is a regular and widespread migrant visitor (with records in all months) on most islands, there are only few (< 10) records from Sal.

Cape Verde Purple Heron *Ardea bournei*

On 5 and 24 March 1996, there were four occupied nests in the colony at Boa Entrada, Santiago. On the first date, two dead nestlings (less than two days dead) were found under the nesting tree. On the second date, one nest contained a nestling older than two weeks, two other nests had young of 1-2 weeks old, while an incubating adult was sitting at the fourth nest. In addition, an adult was seen flying over dry hillsides c. 5 km south of São Domingos, along the road to Praia, on 5 March (TJB, KvD). The nesting data imply an extension of the known breeding season with at least one month. The latest date of a juvenile in the colony was 21 March. The Purple Heron of Cape Verde has a double breeding season, with nesting occurring in both autumn and spring. In 1996, no information was

obtained from the recently discovered colony at Banana, Ribeira Montanha (see Hazevoet 1992b). With some 20 pairs at most, the total population of this endemic heron remains at a perilous low level and effort should be directed at the protection of the two known breeding colonies, each situated in a single tree.

Spoonbill *Platalea leucorodia*

During March-April 1996, three immatures were present at the sewage farm on São Vicente, an island at which the species had only been recorded for the first time the year before (Hazevoet *et al.* 1996). The birds were first observed on 9-10 March (TJB, KvD) and again on 24 April (CJH). One of the birds was colour marked and had been ringed as a nestling at the Frisian island of Terschelling, The Netherlands (53°25'N, 05°29'E), 26 May 1994, and was subsequently seen at Ameland (another Frisian island) until 10 September 1994 (data Working Group Spoonbill, The Netherlands). The record on São Vicente in July 1995 (at the same site) also concerned three immatures and, although no colour markings were noted then, it seems possible that both records concerned the same birds, indicating that at least some immatures do not return to the breeding grounds until fully adult. With 18 records, of which 14 since 1988, the Spoonbill's status as a regular visitor in small numbers seems to be well established now. Apart from the São Vicente records mentioned above, all others were from Santiago and Boavista. In view of the extreme scarcity of inland surface water, the species' regular occurrence in these arid islands, 500 km off the West African mainland, is surprising.

*Pintail *Anas acuta*

A female at Ribeira da Madama, Sal, 12 February 1996 (HHW), was the first record for the Cape Verde Islands. In addition, an unidentified duck, possibly *A. acuta*, was flying east at sea off Vila da Ribeira Grande, Santo Antão, 8 March 1996, but was seen too short to ascertain its specific identity (TJB, KvD). In southern Mauritania and Sénégal, Pintail is a common winter visitor, mainly September-February, with some staying until April (Lamarche 1988, Morel & Morel 1990).

Pochard *Aythya ferina*

Two males and three females at Ribeira da Madama, Sal, 12 February 1996 (HHW). This is only the third record for the Cape Verde Islands, previous records being from São Nicolau (one collected 2 December 1898) and Santiago (a flock of eight at the Pedra Badejo lagoons, 6 February 1966). The species is a regular but rather uncommon winter visitor to Sénégal but only rarely observed in Mauritania (Lamarche 1988, Morel & Morel 1990).

Cape Verde Buzzard *Buteo bannermani*

Two at Ribeira de Torre, Santo Antão, 7 March, and one near Fajã de Baixo, São Nicolau, 15 March 1996 (TJB, KvD). There were no observations of this rare endemic raptor from São Nicolau since the 1960s and it remains questionable whether there still exists a breeding population on the island. Inter-island movements, however, seem to be not exceptional and resettlements may be possible. In view of the dwindling numbers of the Cape Verde Buzzard (see also 'Notes on conservation' above), it remains important that all observations are reported.

Cape Verde Peregrine *Falco madens*

An adult at the cliffs just east of Praia harbour, Santiago, 4 March 1996 (TJB, KvD). Very little is known about the distribution and numbers of this rare endemic falcon and only few observations are on record. It had been seen before at the above site in December 1987, suggesting a more regular occurrence there and the species may breed in the area. So far, breeding has only been established on Ilhéu de Cima during the 1960s. The remaining records are mostly of singles at different sites on different islands and these do not show a distinctive pattern of distribution. Likely, the species is unevenly distributed in small numbers throughout the archipelago, especially along cliffs, with a total population not exceeding some tens of pairs.

Helmeted Guineafowl *Numida meleagris*

Two along Ribeira do Rabil, 20 March, and two along Rabil lagoon, 22 March 1996, both Boavista (TJB, KvD). Apart from feathers found in April 1991, there were no records from Boavista since 1924. The species has apparently been reintroduced to the island in recent years.

Oystercatcher *Haematopus ostralegus*

One feeding on intertidal rocks at Sal Rei, Boavista, 30 January 1997 (M. Rogerson). This is only the sixth record for the Cape Verdes, earlier records being from Santiago, Ilhéu de Cima, São Vicente, Branco, and Boavista, all along the shore, August-March. There were two old records and one each in the years 1985-1987 but the species had not been reported since.

Avocet *Recurvirostra avosetta*

Four at saltpans near Vila do Maio, Maio, 9 December 1995 (M. Haffner Gulleisen). There are now five records, all from the eastern islands, viz. Sal (1), Boavista (2), and Maio (2). There was only one old record but the recent increase in observations (since 1987) suggests that the species may be a regular winter visitor in small numbers. Records are from November, December, February (2), and April.

Little Ringed Plover *Charadrius dubius*

Three at the São Vicente sewage farm, 9 March 1996, and a single bird there the following day (TJB, KvD). This is the first record for São Vicente, others being from Santiago (7) and Boavista (1). Six of the Santiago records are from a single locality, viz. the Pedra Badejo lagoons. There were only two records up to 1988 but the increase in observations since shows it to be a regular winter visitor (August-May) in small numbers.

Least Sandpiper *Calidris minutilla

One at the sewage farm, São Vicente, 9-10 March 1996 (TJB, KvD). The bird was in first winter plumage, perhaps slightly moulting into summer plumage. The bird's identity was confirmed by a detailed description, supplemented with photographs, ruling out similar species such as Little *C. minuta*, Temminck's *C. temminckii*, and Long-toed Stint *C. subminuta*. On some occasions, the bird was feeding next to a Little Stint, allowing for a direct comparison to be made. This is the first record for the Cape Verde Islands and only the third Nearctic wader reported from the islands, there being previous records of American Golden Plover *Pluvialis dominica* and American Whimbrel *Numenius (phaeopus) hudsonicus*. Among other eastern Atlantic islands, the species has been recorded in the Azores (LeGrand 1983, de Juana *et al.* 1992, 1996) and the Canary Islands (Emmerson *et al.* 1994), but there appear to be no records from continental West Africa.

Dunlin *Calidris alpina*

Two at the Pedra de Lume salt pans, Sal, 22 April 1996 (CJH), was the first record in that month. There are only c. 15 records and the species is an uncommon migrant visitor. In contrast to some of the other migrant waders, no apparent increase in records has occurred during the last decades and Dunlin is only seldom reported. There are now records from October-April, with one in July but none in December.

Ruff *Philomachus pugnax*

One at the sewage farm on São Vicente, 9-10 March 1996 (TJB, KvD). This is only the second record from São Vicente, others being from Santiago (5), Sal (2), Boavista (2), and Maio (2). There were only two records up to 1986 but eleven sightings have been reported since, confirming its status as an uncommon passage and winter visitor, August-May, with numbers perhaps increasing during migration, October and February-March.

Snipe *Gallinago gallinago

One at the sewage farm, São Vicente, 9 March 1996 (TJB, KvD). The bird was flushed from the edge of one of the basins but alighted and could then be closely observed for

c. 10 minutes, after which it flew away and was not found back again. The description ruled out both Jack Snipe *Lymnocyptes minimus* and Great Snipe *G. media*, but the possibility of American Snipe *G. (gallinago) delicata* could not be excluded. The record is here accepted as *G. gallinago* (sensu lato) and is the first for the Cape Verde Islands.

Wood Sandpiper *Tringa glareola*

On São Vicente, 8-10 Wood Sandpipers were present at the sewage farm, 9-10 March 1996 (TJB, KvD). Previously, there was only one record from São Vicente (at the same site), presumably reflecting a dearth of observers rather than the absence of birds. Although there were only three records before 1985, the species is now known to be a regular winter visitor. The majority of observations are from the Pedra Badejo lagoons, Santiago, where small numbers (1-10) are regularly present, September-May. Other records are from Boavista (3) and Maio (1).

Turnstone *Arenaria interpres*

A ringed bird was observed at Sal Rei, Boavista, 22 March 1996, and its ring read in the field (TJB, KvD). It had been ringed as a full grown bird at Säppi, Luvia, Finland (61°29'N, 21°21'E), 9 July 1990 (data Finnish Ringing Centre). This is the first ringing recovery of Turnstone in the Cape Verde Islands, where it is a common and widespread migrant visitor with records throughout the year.

Pomarine Skua *Stercorarius pomarinus*

One at sea between Sal and Boavista, 21 April, and singles along the southeastern coast of Sal, 1 and 12 May 1996 (FWW). There were no records before 1973 but observations since show that the species is a regular visitor to Cape Verde seas. There are now c. 10 records (totalling c. 40 birds), with the above being the first in May. Previous records were in October and February-April. All observations were made aboard vessels at sea, although often not far offshore. The main wintering area of Pomarine Skua is in the Sénégal upwelling zone between latitudes 08°-20°N but apparently only small numbers occur west of longitude 20°W, presumably because of the lower planctonic production of these waters.

Black-headed Gull *Larus ridibundus*

Five to six birds were regularly seen at Ribeira da Madama, Sal, 17-25 February 1996 (HHW). There were only two records before 1983 (not one, as erroneously stated in Hazevoet *et al.* 1996) but there are now 25+ records (September-March), confirming its status as a regular winter visitor in small numbers. Most records are of singles or pairs and small parties like that reported above are rare.

Yellow-legged/Lesser Black-backed Gull

Larus cachinnans/fuscus

On Sal, immatures were seen at Ribeira da Madama, 17 and 25 February, and another at Palmeira, 22 February 1996 (HHW). As on several earlier occasions, these records of immature large gulls could not be assigned with certainty to one or the other taxon, although *fuscus* is the more commonly occurring. Moreover, the possibility of American Herring Gull *L. argentatus smithsonianus* should also be considered as there are transatlantic records of immature *smithsonianus* from Ireland and Portugal (Mullarney 1990, Moore 1994b).

Common Tern *Sterna hirundo*

On Sal, singles were present at Santa Maria and at Pesqueirona, 9 April, again one at Santa Maria, 21 April, and two along the southeastern coast, 22 April 1996 (CJH, FWW). There were only seven records (December-January, May-June) and these are the first in April. The species is probably a regular passage migrant in small numbers, mainly in the three eastern islands. Records include recoveries of birds ringed in Finland and Sweden, but the possibility of North American birds occurring in the islands should be kept in mind as these have been recovered in the Azores, Ivory Coast, Togo, and Nigeria (Nisbet & Safina 1996).

Common/Arctic Tern *Sterna hirundo/paradisaea*

A flock of c. 100 terns foraging at sea between Sal and Boavista, 21 April 1996, were probably *S. paradisaea* but identification could not be fully established due to distance and sea conditions (FWW). There is only a handful of observations of Arctic Tern from Cape Verde seas, all April-May, but it seems likely that the species is a regular pelagic migrant, passing through the archipelago largely undetected.

Little Tern *Sterna albibrons*

As in previous years, Little Terns were observed at Rabil lagoon and along the nearby shore on Boavista, where 1-2 adults and an immature were present, 18-22 March 1996 (TJB, KvD). There are now seven records from October-April. Apart from one record from Maio, all observations are from the same site on Boavista. Although only first recorded in the Cape Verde Islands in 1988, the species is apparently a regular migrant visitor in small numbers.

Hoopoe Lark *Alaemon alaudipes*

In 1996, five pairs and a juvenile were found in the dunes 3-4 km north of Santa Maria, Sal, 12-26 February (HHW), and at least three pairs were present there during mid April (CJH). The species was only first reported from Sal in

1995 (Hazevoet *et al.* 1996) and the record of a juvenile in 1996 is the first indication of breeding on the island. In addition, there is a tentative observation (requiring further confirmation) from the island of Santiago, where the species was reported east of Ribeira da Barca, 4 December 1995 (M.M. Pinheiro). Hoopoe Lark is common and widespread on Boavista and Maio, but previous to 1995 it had not been reported from any other island in the archipelago.

Red-rumped Swallow *Hirundo daurica

One at Ribeira da Madama, Sal, 25 February 1996 (HHW), and another, together with *c.* 50 Swallows *H. rustica* and 3-4 African Sand Martins *Riparia paludicola* (see next), at Terra Boa, Sal, 14 April 1996 (CJH). These are the first records for the Cape Verde Islands. In West Africa, the species is a widespread winter visitor as well as a local breeder. Movements of the former are hard to follow due to the difficulty of distinguishing between northern migrants and local birds (Morel & Morel 1990, Keith *et al.* 1992).

African Sand Martin *Riparia paludicola

Three or four were feeding over Terra Boa, Sal, 14 April 1996 (CJH). The species had not been recorded before in the Cape Verde Islands. Status and movements of African Sand Martin in West Africa are poorly understood. Breeding has not been established in neighbouring mainland Africa (Mauritania, Senegambia, Guinea-Bissau) but has been suspected in Guinea-Conakry and its occurrence in the region is rather irregular (Walsh 1987, Lamarche 1988, Morel & Morel 1990, Hazevoet 1996d). Breeding occurs in Morocco and from Mali eastwards to Nigeria and Chad but both the Moroccan and Nigerian populations are said to be sedentary (Etchécopar & Hùe 1964, Keith *et al.* 1992).

The uncertainties surrounding the origin of the African Sand Martins seen in the Cape Verde Islands and their status in Northwest and West Africa are reminiscent of the situation for Blue-cheeked Bee-eater *Merops persicus*, as discussed by Hazevoet (1996a). Both taxa are aerial insect feeders, breeding in excavated burrows in river-banks etc. and, presumably, both are opportunistic breeders which may take rapid advantage of locally favourable conditions, dispersing after breeding without clear pattern of migration. Moreover, both Blue-cheeked Bee-eater and African Sand Martin breed in Northwest as well as in West Africa, making movements of different populations in West Africa difficult to follow.

Meadow/Tree Pipit *Anthus pratensis/trivialis*

A pipit claimed to be *A. pratensis* (a species not recorded before in the Cape Verdes) was seen in grassy vegetation near a sewage outlet at Santa Maria, Sal, 16 and 24 February 1996 (HHW). However, insufficient details on identification were provided to rule out the possibility of *A.*

trivialis. Nevertheless, it is reported here because of the rarity of pipit observations in the islands, there being two records of Tree Pipit and one of Tawny Pipit *A. campestris*. Tree Pipit is a common winter visitor in West Africa (Cramp 1988, Keith *et al.* 1992). Meadow Pipit is a common winter visitor in Northwest Africa, especially abundant in Morocco, but only small numbers visit Mauritania and there are no records further south (Cramp 1988, Lamarche 1988, Morel & Morel 1990).

White Wagtail *Motacilla alba*

One (photographed) at the sewage farm on São Vicente, 9-10 March 1996 (TJB, KvD). This is only the fifth record for the islands and the first one in March, other records being in December (1), January (2), and February (1). There was only one old record but the recent increase in observations (since 1989) suggests that White Wagtail is a regular winter visitor in small numbers, with records from São Vicente (3) and Sal (2).

Wheatear *Oenanthe oenanthe*

On Sal, three were seen northwest of Santa Maria, 14 February, and singles near Ribeira da Madama, 17 and 25 February 1996 (HHW). There were 10 records (of which eight since 1985) and Wheatear is apparently a regular passage and winter visitor in small numbers. Records are from November-April, with most observations in February-March.

Song Thrush *Turdus philomelos

One was regularly seen in a hotel garden at Santa Maria, Sal, 13-26 February 1996 (HHW). This is the first record for the Cape Verde Islands. Song Thrush is a common winter visitor in Northwest Africa, but only small numbers migrate as far south as Mauritania and there is a single record from northern Sénégal (Cramp 1988, Lamarche 1988, Morel & Morel 1990). More birds move south if weather is severe (Cramp 1988) and the cold European winter of 1995-1996 may have brought larger than usual numbers to northern Africa, resulting in the surprising appearance of a Song Thrush in the Cape Verde Islands.

Willow Warbler *Phylloscopus trochilus*

One (singing) in bushes near Cachaço, São Nicolau, 15 March 1996 (TJB, KvD). The only previous records were of one on São Nicolau, 17 March 1990, and at least 10 birds at different locations on Boavista, 19-22 September 1988. Although only rarely reported, the species is probably a scarce but regular passage migrant.

Spanish Sparrow *Passer hispaniolensis*

At least two females were regularly seen at Santa Maria, Sal, 17 April-19 May 1996 (CJH). Although common and

widespread on some islands (Santiago, Fogo, Boavista, Maio), it has only sporadically been reported from Sal. Previous records from the island were in the years 1987-1988, when a few were present in palm trees at Terra Boa, but there were no subsequent sightings during 1989-1995.

On São Nicolau, 15 were counted at Vila da Ribeira Brava, 17 March, and a singing male at Campo da Preguiça, 18 March 1996 (TJB, KvD). Its occurrence on São Nicolau appears to be rather irregular. It was reported during the late 19th century but not again until 1982 and 1988-1990, but it was not found there in the years 1991-1995. Apparently, nomadic behaviour of the Spanish Sparrow in the Cape Verdes is still well developed and, although common on some, its presence or absence on other islands are hard to predict.

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