

in the mid-stratum, mainly 4–10 m up; they tend to sing a bit higher, often around 10–15 m, and birds excited by tape playback go even higher, up to about 20 m.

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### Status of the Cape Verde Cane Warbler *Acrocephalus brevipennis* on São Nicolau, with notes on song, breeding behaviour and threats

The Cape Verde Cane Warbler *Acrocephalus brevipennis* is a little known species endemic to the Cape Verde Islands, regarded as Endangered because of its small and declining population (Stattersfield & Capper 2000). Until 1998, it was thought to survive only on the island of Santiago, with a population of probably several hundred pairs, and to have become extinct on Brava (last recorded in the 1960s by Frade 1976) and São Nicolau (last seen in 1970: see Hazevoet *et al.* 1999). However, it was

rediscovered on São Nicolau in February 1998, when eight singing males were located at three sites around 3 km apart (Hazevoet *et al.* 1999). All apparently suitable habitat on the island was searched and it was concluded that these represented the entire São Nicolau population and that the species' future on the island was bleak, as increasingly severe droughts pose a major threat to the dense stands of vegetation it appears to need.

Few nests have been found. Castell (1999) photographed one in a stand of the introduced Giant Reed *Arundo donax* ("cane"), but birds also nest in trees (Hazevoet 1995). Behaviour at the nest is unrecorded and the species' vocalisations on São Nicolau are poorly known. In late September and October 2001, and in January 2003, we revisited all the sites on São Nicolau where the species was recorded in 1998, as well as some other potentially suitable areas, to assess changes in population and distribution. We also collected data on breeding biology, behaviour and song.

We found Cape Verde Cane Warblers at all three 1998 sites, and in almost identical numbers, although we did not find them in 2001 at one of these sites, the Fajã Valley, despite two intensive searches of the same small area where a pair was located in 2003. The results of timed simultaneous counts by observers 100 m apart (measured by GPS) at these three sites are given in Table 1. No birds were found away from these three sites despite extensive searching. However, undiscovered populations might exist, especially in large cane stands in deep gullies in the Fajã Valley. Most records were of singing males, as these were easier to locate, but some were confirmed to have mates.

**Table 1. Counts of Cape Verde Cane Warbler on São Nicolau. Numbers are singing males (number of confirmed pairs in parentheses).**

	Feb 1998 <sup>1</sup>	Apr 2001	Sep–Oct 2001	Jan 2003 <sup>2</sup>
Ribeira Tucudo <sup>3</sup>	4		5–6 (2)	4–5 (2)
Ribeira da Fragata <sup>4</sup>	3	5 <sup>6</sup>	4 (2)	3 (2)
Fajã Valley <sup>5</sup>	1		0	1 (1)
<b>Total</b>	<b>8</b>		<b>9–10 (4)</b>	<b>8–9 (5)</b>

<sup>1</sup>Hazevoet *et al.* (1999): only singing males recorded. <sup>2</sup>Hazevoet (2003). <sup>3</sup>A tributary of Ribeira da Queimada. <sup>4</sup>Also referred to as Ribeira da Prata. <sup>5</sup>Ribeira Chafariz, above Canto da Fajã. <sup>6</sup>Total seven birds.

The pair in the Fajã Valley and two pairs at the lower end of Ribeira da Fragata were found in large, open patches of cane with surrounding tree cover. All other birds were in dense stands of large fruit trees, particularly Mango *Mangifera indica*, with or without small patches of cane nearby, which appears to be the most important habitat in the species' stronghold on Santiago (Hazevoet *et al.* 1999). In the first habitat, birds spent much time in the cane but sometimes foraged in the surrounding fruit trees. Birds in the second habitat were not observed using the small patches of cane that

were available to them, but fed instead in the canopy of large fruit trees in the company of many Blackcaps *Sylvia atricapilla* and Iago Sparrows *Passer iagoensis*. As *A. donax* is an introduced species on the Cape Verdes, being native to central Asia but widely introduced across the world, the Cape Verde Cane Warbler must formerly have been able to survive without it. Cane may now be important, as few birds were seen in apparently suitable habitat without it, and it may have replaced a native species with similar structure. Alternatively, it may be coincidental that *A. donax* occurs in the damper areas that the warblers might favour anyway.

Songs of males were highly variable, though apparently similar to those given on Santiago (Cramp & Brooks 1992, C.J. Hazevoet, pers. comm.). Most started with a short, dry, two-note phrase with a rather croaking, frog-like quality, the second syllable usually lower than the first but sometimes higher. This was usually followed by a rapid two-note rattle, reminiscent of Lesser Whitethroat *Sylvia curruca*. In some birds, the two-note rattle was greatly embellished with extra notes giving a far more complex song. Some birds added a final liquid flourish of fast ascending, or ascending and then descending, notes. Birds in Ribeira Tucudo seemed to give less complex songs than those at Ribeira da Fragata. It is not known whether there is any interchange of birds between these two populations, which are separated by a high ridge of mountains. Birds appeared to sing throughout the day, although the quantity of song output was low. Crude imitations by observers of elements of the call and song caused birds to respond immediately, suggesting that playback could be a useful tool in future surveys of this inconspicuous species.

On 29 Sep 2001, we found a nest in a tall sapling of a non-native Indonesian tree known locally as Jambroeira *Syzygium jambos*. The nest was built in the junction of four small branches c. 12 m above the ground. It was a deep, closely woven, cone-shaped structure, larger and more substantial than many other *Acrocephalus* nests and reminiscent of that of a Golden Oriole *Oriolus oriolus*. On that day and on 6 Oct, the birds were clearly incubating eggs, changing places on the nest approximately every 15 min. Several times, the presumed female (smaller and never sang) left the nest for less than a minute before returning. Egg-turning was observed several times, c. 2 min. after changeover. On approaching the nest, both sexes gave a low, disyllabic call, the second note lower than the first. While the female was incubating, the male often sang quietly from nearby trees. When flying between perches, birds often landed with a short glide, in the manner of some *Hippolais* warblers. A similar but old nest was found later in the same valley in the same species of tree, but at a height of only 4 m.

Although estimates in 2001 and 2003 suggested that there was no serious decline on São Nicolau since 1998, this population faces a number of threats. Declines on Santiago are attributed at least partly to loss of dense vegetation through drought (Birdlife International 2000). It may be no coincidence that the areas with birds in both Ribeira Tucudo and Ribeira da Fragata are irrigated, whereas apparently suitable but unoccupied areas in Ribeira Brava and Ribeira da Queimada are not. Water in irrigation tanks may be an important source of insects, and Cape Verde Cane

Warblers were seen to drink from puddles around these on a number of occasions. Cutting of cane for livestock feeding is another potential threat to the species, and evidence of cane cutting was seen in Ribeira Tucudo in October 2001. However, there was no evidence of substantial loss of cane at any of the three occupied sites between 2001 and 2003. The population requires monitoring, and efforts to maintain or increase stands of cane and fruit trees in areas where the species persists, for example by subsidising farmers to plant trees or cane, or promoting irrigation, would doubtless help the species to survive on São Nicolau.

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