CAPE WEAVER MOVEMENTS IN THE SOUTHWESTERN CAPE

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In the southwestern Cape the Cape Weaver *Ploceus capensis* is an abundant resident and local migrant (Hockey *et al.* 1989). Outside the breeding season (June to November) it is absent from nesting colonies. The movements of the birds are of interest as the species is considered to be an agricultural pest (Elliott 1973) and control measures are enforced in an attempt to reduce the number of birds and prevent damage to crops, particularly soft fruits such as grapes (Jarvis and Heyl 1989). We present here the results of ringing Cape Weavers in the southwestern Cape. This note is intended to indicate the potentially useful information which can be derived from ringing a common species. The appropriateness of mistnetting as a method of 'pest control' is also discussed.

METHODS

Cape Weavers were mistnetted and ringed at 15 sites in the southwestern Cape (indicated by the solid symbols in Fig. 1 overleaf). Table 1 (page 19) lists these sites and details the numbers of weavers ringed at Kraaifontein (a single visit in 1972), Bottelary (1972-1973), Firgrove/Faure (1972-1978), Betty's Bay (1982 to the present), Paarl (a single visit in 1987), Kirstenbosch (1985-1986) and at nine other localities (1984 to the present). Cape Weavers were a target species at Betty's Bay where birds are intercepted on their way to and from a reedbed roost 4 km west of the ringing site. Elsewhere, weavers were incidental captures in the course of routine mistnetting. Recoveries include birds reported from ringing sites by persons other than the ringer; controls are birds recaptured more than 5 km from the original ringing site and then released. The period 1972 - June 1990 is covered in this report. Although we are aware that Cape Weavers have been ringed in the southwestern Cape by other ringers before and during our study period, we have restricted the analysis to our birds because of the preliminary nature of this report and, not least, the difficulties involved in tracking down far-flung data. If this note encourages other ringers to analyse their own results and compare them (preferably in print) with ours, then so much the better.

RESULTS AND DISCUSSION

We have ringed 2 411 Cape Weavers at 15 sites in the southwestern Cape. The majority (85%) were ringed from 1986 onwards. Table 1 details the numbers of weavers ringed at these sites, and the number and percentage of birds recovered.

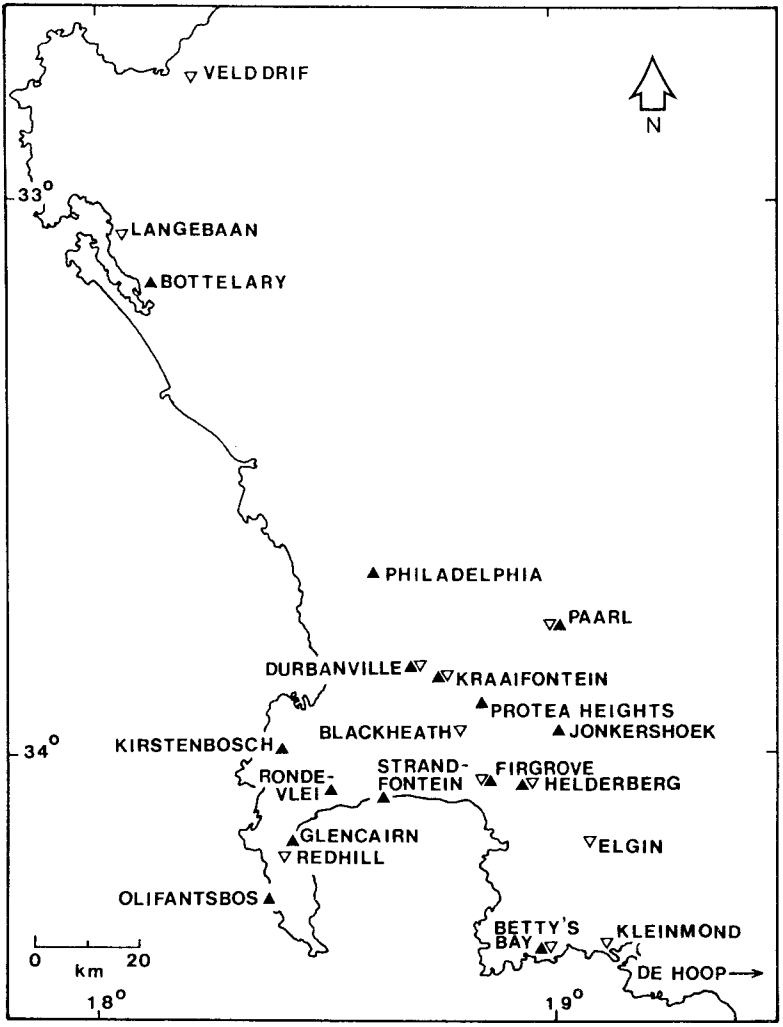

FIGURE 1

CAPTURE (CLOSED SYMBOLS) AND RECOVERY (OPEN SYMBOLS) SITES OF CAPE WEAVERS *PLOCEUS CAPENSIS* RINGED IN THE SOUTHWESTERN CAPE

TABLE 1

CAPTURE SITES OF CAPE WEAVERS *PLOCEUS CAPENSIS* RINGED AND RECOVERED IN THE SOUTHWESTERN CAPE

LOCATION AND CO-ORDINATES	NO. RINGED	NO RECOVERED	(%)
Betty's Bay 34 21S, 18 58E	798	4	(0,5)
Olifantsbos, Cape of Good Hope Nature Reserve (CGHNR) 34 16S, 18 23E	29	3	(10,3)
Glencairn 34 09S, 18 25E	20	0	-
Rondevlei Bird Sanctuary 34 04S, 18 30E	151	1	(0,7)
Strandfontein 34 05S, 18 31E	99	0	-
Firgrove 34 03S, 18 47E	195	2	(1,0)
Helderberg Nature Reserve, Somerset West. 34 03S, 18 52E	193	1	(0,5)
Kirstenbosch Botanic Gardens 33 59S, 18 26E	1	0	-
Jonkershoek Forestry Research Centre, Stellenbosch 33 58S, 18 56E	2	0	-
Protea Heights, Stellenbosch 33 54S, 18 49E	55	0	-
Durbanville Nature Reserve 33 50S, 18 38E	409	1	(0,2)
Kraaifontein 33 50S, 18 43E	37	3	(8,1)
Paarl Wildflower Garden 33 40S, 18 58E	6	0	-
Philadelphia 33 41S, 18 36E	225	2	(0,9)
Bottelary 33 08S 18 05E	191	2	(1,0)
TOTAL	2 411	19	(0,79)

Sites which show high catches of weavers (Table 1) reflect favoured feeding areas and/or a high number of ringing sessions. Cape Weavers frequently feed on nectar from Proteaceae flowers and many were caught in the course of mistnetting aimed primarily at Cape Sugarbirds *Promerops cafer* and sunbirds Nectarinia spp. at Helderberg (Fraser & McMahon 1989; Fraser *et al* 1989). Fig *Ficus* sp. and Wild Olive *Olea europea* ssp. *africana* fruits were the attractions for weavers at Philadelphia and Protea Heights respectively. Durbanville and Rondevlei have received almost 100 ringing sessions between them since 1986 (Underhill & Underhill 1990) which, together with the presence of favoured food-plants (notably *Ficus* sp. [fruit] and *Salvia africana-lutea* [nectar] at Rondevlei), have resulted in relatively high ringing totals. The species is an uncommon visitor to Olifantsbos, where parties of nomadic birds are recorded on passage in mid-summer (Fraser 1987). Few of these land or linger, but 25 were ringed there in December 1985.

Nineteen of 'our' ringed Cape Weavers subsequently have been reported (Table 1, Fig 1 and Fig. 2 on page 22 - open symbols). In addition, a weaver ringed outside our study area was controlled within it (De Hoop to Kleinmond), and one ringed by Clive Elliott in 1970 (outside the study period) was controlled in 1972 (within it). The mean interval between ringing and reporting was 11,9 months (range 0-47 months, n = 21). The mean distance travelled by recoveries was 30,1 km (range 0 - 156 km, n = 21). Birds moving more than 5 km (the distance required to boost a 'retrap' to a 'control') covered a mean of 44,0 km (range 6 - 156 km, n = 14). Elliott's (1973) three most distant recoveries were 190 km, 40 km and 38 km. His 33 other reports involved movements of <15 km. The proportion of ringed birds subsequently recovered is low (<1%) (see Table 1), with the relative exceptions of Kraaifontein (8,1%) and Olifantsbos (10,3%). The surprisingly high recovery rates from these two sites are, we must assume, due to chance and not some curious local attribute (a 'Bermuda Triangle' for weavers?). The Kraaifontein recoveries (3) were all of birds ringed on the same day and recovered 25 km, 25 km and 3 km distant, respectively. Two birds from Olifantsbos, ringed on the same day, were reported subsequently at Kraaifontein (47 km) and Velddrif (156 km) within six weeks of each other (Fig. 2). A third weaver (a male in immature plumage), ringed while nest building - the only weaver ever recorded doing so at Olifantsbos (pers obs.), did not move so far (10 km to Redhill), but lived longer (4 years). Conversely, the recovery rates reported from Durbanville, Helderberg and Rondevlei, in particular, are perhaps surprisingly low. We might have expected higher reporting rates from these areas on account of their more urban situations and associated hazards (notably traffic and cats), and higher human population.

Recoveries (excluding controls) were made in eight months of the year. One third of all recoveries were made in July (Table 2 opposite). Eight recoveries (53%) were made in the breeding

season although, as Elliott (1973) points out, the timing of recoveries may be related to crop-protection measures as much as selective pressures (see below). The ratio of male to female recoveries was 5:6 (0,8:1) respectively. Elliott (1973) reported a ratio of 18:13 (1,4:1) in this regard.

NATURE OF RECOVERIES

Table 3 (page 23) details the circumstances of reporting of Cape Weavers ringed and recovered in the southwestern Cape. The relatively high proportion (23,8%) of controlled (in the ringing sense) birds is of interest, particularly as it is the result of unsystematic ringing of weavers away from breeding colonies (between which some level of interchange would be anticipated).

The high percentage of recoveries resulting directly from human action parallels the findings of Elliott (1973). He found that shooting tended to select males, a phenomenon again reflected in our findings. One bird, however, ringed as a first-year, could not have been in adult breeding plumage when shot.

TABLE 2

MONTH OF RECOVERY (EXCLUDING CONTROLS) OF CAPE WEAVERS *PLOCEUS CAPENSIS* RINGED IN THE SOUTHWESTERN CAPE

MONTH	MALE	FEMALE	UNSEXED	TOTAL	(%)
January	1			1	(6,7)
February		2		2	(13,3)
March				0	-
April				0	-
May	1			1	(6,7)
June			1	1	(6,7)
July	3		2	5	(33,3)
August		1		1	(6,7)
September				0	-
October		1		1	(6,7)
November		2	1	3	(20,0)
December				0	-
TOTAL	5	6	4	15	
(Percentage)	(33,3)	(40,0)	(26,7)		

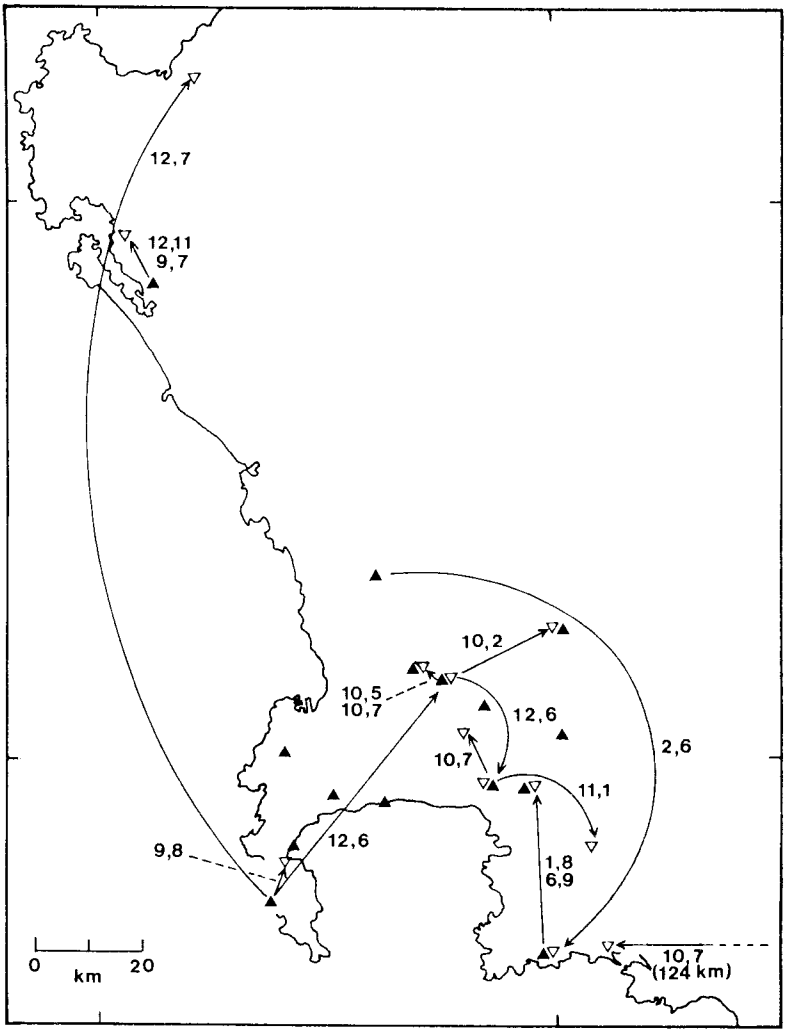

FIGURE 2

CAPTURE (CLOSED SYMBOLS) AND RECOVERY (OPEN SYMBOLS) SITES OF CAPE WEAVERS *PLOCEUS CAPENSIS* RINGED IN THE SOUTHWESTERN CAPE. NUMBERS REFER TO THE MONTH OF RINGING AND RECOVERY RESPECTIVELY

TABLE 3

NATURE OF RECOVERIES OF CAPE WEAVERS *PLOCEUS CAPENSIS* RINGED IN THE SOUTHWESTERN CAPE

NATURE OF RECOVERY	AGE (WHEN RINGED) AND SEX					TOTAL	(%)
	1Y male	2Y male	Adult male	Female	FG (age and sex unknown)		
Control		1	1	3		5	(23,8)
Shot	1		2			3	(14,3)
Mistnetted in crop protection					1	1	(4,8)
Killed by cat				1		1	(4,8)
Collided with window				1		1	(4,8)
Road casualty				1		1	(4,8)
Found injured		1				1	(4,8)
Trapped, presumed dead				1		1	(4,8)
Unknown (dead)		1	1	2	3	7	(33,3)
TOTAL (Percentage)	1 (4,8)	3 (14,3)	4 (19,0)	9 (42,9)	4 (19,0)	21 (100)	

One of the shot birds was killed 'while stealing fruit'. Two of the birds, whose cause of death was unknown, were reported from farms, suggesting shooting or trapping. The finding location and other circumstantial evidence suggest that the five other 'unknown, dead' birds may also have been killed by man.

One bird (recovered at Velddrif, Fig. 2) was killed, having been caught in mistnets set to catch 'problem' birds. The use of mistnets by farmers in crop control activities is organised by the Department of Agriculture and endorsed by the Cape Department of Nature and Environmental Conservation (CDNEC) (Jarvis & Heÿl 1989). Mistnetting is labour intensive, and non-target species are at risk from injury or death while being removed by unskilled hands, or from hanging too long in the nets.

The few results presented here at least suggest that Cape Weavers are highly mobile. If more intensive studies reveal similar mobility in the short-term, turnover rates at favoured feeding sites (vineyards, orchards etc.) would result in control measures having little or no effect. The high turnover rates of Ruddy-headed Geese *Chloephaga rubidiceps* at the Falkland Islands, a species also considered to be an agricultural pest, is considered to nullify the effects of control measures (Summers *et al.* 1985). A discussion of turnover and its estimation from observations of the proportions of marked and unmarked birds in a 'pool' is also given by Summers *et al.* (1985).

Killing Cape Weavers and other birds with mistnets and, indeed, any attempts at reducing their numbers for 'crop protection' appear, therefore, to be questionable on scientific grounds. It may be that such measures are enforced purely as a sop to farmers, who receive a psychological boost with every bird killed, regardless of whether their crops benefit in any way. The involvement of the CDNEC in such activities and their distribution of the mistnets is also highly questionable, considering that the organisation's primary function is (or, at least, should be), conservation. Perhaps the organisers of the problem bird control programme would like to state their case in Safring News?

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REFERENCES

ELLIOTT, C. C. H. 1973. The biology of the Cape Weaver *Ploceus capensis* with special reference to its polygonous mating system. Unpubl. PhD thesis, Dept of Zoology, Univ. of Cape Town.

FRASER, M. 1987. Cape Weaver movements in the southern Peninsula. Promerops 178: 13.

FRASER, M. and MCMAHON, L. 1989. Two years of ringing at Helderberg. Promerops 190: 14-15.

FRASER M. W., MCMAHON, L., UNDERHILL, L. G., UNDERHILL, G. D and REBELO, A. G. 1989. Nectarivore ringing in the southwestern Cape. Safring News 18: 3-18.

HOCKEY, P.A.R., UNDERHILL, L. G., NEATHERWAY, M. and RYAN, P. G. 1989. Atlas of the birds of the Southwestern Cape. Cape Town: Cape Bird Club.

JARVIS, M. J. F. and HEŸL, C. W. 1989. The use of mist nets for problem bird control in vineyards. Stellenbosch: Department of Agricultural Development, Elsenberg.

SUMMERS, R. W., UNDERHILL, L. G., MIDDLETON, D. and BUCKLAND, S. T. 1985. Turnover in the population of Ruddy-headed Geese (Chloephaga rubidiceps) at Goose Green, Falkland Islands. J. Appl. Ecol. 22: 635-643.

UNDERHILL, L. G. and UNDERHILL, G. D. 1990. Ringing at Rondevlei Bird Sanctuary and Durbanville Nature Reserve, two pseudo Measured Effort Sites. Safring News 19: 7-12.

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