Ringing Report for 2001-2002

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Introduction

For three decades very little ringing has been done in the Lebanon, a country lying on the migration crossroads of three continents. This changed in the spring of 2000, when A Rocha Lebanon initiated a ringing scheme in the Western Bekaa Valley. To kick off the scheme, A Rocha invited seven licensed ringers from the UK and Kenya for a two-week intensive ringing session in April of 2000. Over 1000 birds were ringed during these first two weeks, and all were delighted with three controls including a Swallow *Hirundo rustica* with a ring from Budapest. Following this session the scheme was carried on by Colin Beale, an A permit holder in the UK, and Andy Sprenger who trained under Colin. Thus far 3,231 birds have been ringed, with 559 retraps, 14 controls, and a total of 75 individual species.

The aims of the scheme are on two levels: local and regional.

Local

- To gain a better understanding of the ecology of birds in the Aammiq area
- To monitor local bird populations and supplement the data from the Aammiq census
- To establish a Constant Effort Site (CES) on the Aammiq Marsh
- To use the data gained to support conservation efforts

Regional

- To be a link in the chain of ringing stations along one of the most significant migration routes on earth by providing ringing data to international ringing schemes

Method and Material

In the initial stages of the scheme, a number of different sites in the area of the Aammiq Marsh were experimented with to test for productivity. A number of sites were eliminated due to low bird numbers or inaccessibility. The following table shows each site and the number of ringing sessions at each:

Ain Leisheh	Excavated Pool	Ain Tayne	Eastern Reeds	Stables	Sit Shaweni	Central Reeds
2	2	6	10	14	37	44

Site Descriptions:

Ain Leisheh
This site is directly above the village of Aana at about 2000 m. A small trickle from a spring feeds this dug-out pool, which is no greater than 20m square. Large numbers of Tristram's serin *Serinus syriacus*, pale rock sparrow *Carpospiza brachydactyl*, linnet *Carduelis cannabina*, and others gather here to drink. However, access to the site is difficult and from Aana it takes half an hour to reach the site by 4X4.

Excavated Pool
The Excavated Pool lies 3 km east of the Stables. The pool remains wet throughout the year and reedbeds surround the edge. Large numbers of birds often roost in these reedbeds, but the area where nets can be set is quite limited. Two attempts to catch roosting yellow wagtails *Motacilla flava* were unsuccessful.

Ain Tayne
This site lies between the villages of Aammiq and Aana at the top of the Aammiq Wadi at about 1200 m. The site did not produce the numbers hoped for and was eliminated.

Eastern Reeds
This site in the Aammiq Marsh was used during the two-week intensive ringing period; it produced sufficient numbers of birds but was difficult to access. The Central Reedbeds proved to be a much better site.

Stables
The site is located in the wooded area just south of the Stables. The wood has potential to be a very good site with its low-lying bramble and pond, but the pond quickly dries out when irrigation pumping starts in the spring. Unfortunately, the birds disperse when the water disappears.

Sit Shaweni

This densely wooded area lies directly above the Aammiq marsh and just above the Druze temple at about 950 m. A small spring runs through the site and the area is covered in blackberry bushes. It appears to be the best spot in the area for woodland bird species.

Central Reeds
What used to be a goat path in the summer months through the center of the marsh has now become an ideal ringing ride. The site is easily accessed by a road and consistently produces high numbers of birds.

To simplify description of method, only the Central Reeds and Sit Sha-weni will be described as these sites comprised 70% of the ringing days and represent the majority of the data.

Central Reed Site
The Central Reed Site essentially is made up of one long ride. Because there was a preexisting goat path, little reed cutting was necessary. Anywhere from three to five 60-foot nets were run together in a straight line. The number of nets used depended on the time of year and the number of ringers present. Nets were set the evening before ringing. Birds that happened to be caught during set-up were extracted, ringed, processed and released. Nets were typically opened the next morning about 45 minutes before sunrise. The first round of extraction took place at sunrise and the birds were bagged and brought back to the ringing station to be ringed and processed. Ideally all first-round birds were ringed before the second round began, but on occasion it was necessary to begin the second round of extraction before all the first-round birds were ringed. The second and third rounds of extractions began roughly 45 minutes to 1 hour after the beginning of the first round. As the day heated up, the latter extraction rounds were roughly 30 minutes apart. Nets were taken down at the end of each session.

Sit Shaweni Site
The net rounds for Sit Shaweni were run in the same manner as at the Central Reed site. Again the number of nets used varied depending on the number of ringers. Usually there was one ringer and an assistant, which typically meant four nets (one 60-foot net and three 40-foot nets).

All birds caught were identified, ringed, aged, and sexed when possible using Svensson's "Identification Guide to European Passerines", and Bakers "Identification Guide to European Non-Passerines". The following biometrics for each bird were also taken when applicable:

Primary and Secondary moult (using the BTO's 1-5 code and numbering from the outside of the wing inwards)
Maximum wing chord (in mm)
Fat (using the European Science Foundation's 1-8 code devised by Kaiser)
Muscle (using the 1-8 code devised by Beirlien)
Weight (in grams - most measured with an electronic scale)

All data was collected on data sheets and entered on the office computer. Date of session and time of each round were also recorded. Weather conditions were not recorded.

Note: See appendix for list of materials.

Results

Table A (below) shows the breakdown of days, sessions, individuals and species caught by month.

Table A: Numbers ringed and species caught by month and session

	# of ringing days	# of ringing sessions	# caught	Mean ind./day	Mean ind./session	# of species
January						
February	1	1	5	5	5	3
March	7	7	126	18	18	21
April	18	36	1646	91.4	45.7	45
May	13	19	766	58.9	40.3	26
June	10	11	420	42	38.2	30
July	4	4	107	26.8	26.8	18
August	9	9	192	21.3	21.3	27
September	10	12	312	31.2	26	25
October	7	7	120	17.1	17.1	19
November	5	7	75	15	10.7	12
December	2	2	11	5.5	5.5	6
Total	**86**	**115**	**3780**	**30.2**	**23.1**	**75**

Note: Some days (mostly during the two-week intensive period in April where there were two groups ringing at different sites) had sessions at different sites.

Table B shows the recoveries and controls for the Aammiq Marsh, and the number of days between being first ringed and controlled. All birds listed were caught at the Central Reed or Eastern Reed sites.

Table B: Recoveries and Controls

	Ring	Species	Ringed	Cont'd	Site Ringed	Site Controlled	Days
1	T103689 Budapest	Swallow *Hirundo rustica*	22/8/99	5/4/01	Izsák, Bács-Kiskun county 46°49'N 19°21'E	Aammiq Marsh 33.46'N 35.46'E	592
2	T8431 Tel Aviv	Reed Warbler *Acrocephalus scirpaceus*	17/4/93	3/4/01	Ha'on Tiberias 32 44'N 35 37'E	Aammiq Marsh 33.46'N 35.46'E	2918
3	W18704 Tel Aviv	Moustached Warbler *Acrocephalus*	11/3/00	3/4/01	Hula Reserve, Hula Valley	Aammiq Marsh 33.46'N 35.46'E	398

		melanopogon			33 04'N 35 36'E		
4	W55518 Tel Aviv	Moustached Warbler *Acrocephalus melanopogon*	24/6/00	3/4/01	Hula Reserve, Hula Valley 33 04'N 35 36'E	Aammiq Marsh 33.46'N 35.46'E	293
5	W23086 Tel Aviv	Moustached Warbler *Acrocephalus melanopogon*	9/9/00	7/5/01	Dafna Fish Ponds, N. Hula Valley 33 12'N 35 38'E	Aammiq Marsh 33.46'N 35.46'E	250
6	W22739 Tel Aviv	Moustached Warbler *Acrocephalus melanopogon*	29/7/00	25/5/01	Dafna Fish Ponds, N. Hula Valley 33 12'N 35 38'E	Aammiq Marsh 33.46'N 35.46'E	300
7	W22762 Tel Aviv	Moustached Warbler *Acrocephalus melanopogon*	29/7/00	1/5/02	Dafna Fish Ponds, N. Hula Valley 33 12'N 35 38'E	Aammiq Marsh 33.46'N 35.46'E	652
8	R04942 Tel Aviv	Penduline Tit *Remiz pendulinus*	1/9/01	25/9/02	Dafna Fish Ponds, N. Hula Valley 33 12'N 35 38'E	Aammiq Marsh 33.46'N 35.46'E	389
9	B001517 Lebanon	Moustached Warbler *Acrocephalus melanopogon*	25/5/01	1/9/01	Aammiq Marsh 33.46'N 35.46'E	Dafna Fish Ponds, N. Hula Valley 33 12'N 35 38'E	120
10	B001838	Cetti's Warbler *Cettia cetti*	7/8/01	19/10/01	Aammiq Marsh 33.46'N 35.46'E	Hula Reserve, Hula Valley 33 04'N 35 36'E	64
11	B001743	Reed Warbler *Acrocephalus scirpaceus*	29/6/01	13/4/02	Aammiq Marsh 33.46'N 35.46'E	Ha'on, Tiberias 32 44'N 35 37'E	289
12	B001548	Moustached Warbler *Acrocephalus melanopogon*	30/5/01	3/7/02	Aammiq Marsh 33.46'N 35.46'E	Dafna Fish Ponds, N. Hula Valley 33 12'N 35 38'E	370
13	C000188	Great Reed Warbler *Acrocephalus arundinaceus*	22/6/01	4/7/02	Aammiq Marsh 33.46'N 35.46'E	Dafna Fish Ponds, N. Hula Valley 33 12'N 35 38'E	398
14	B002618	Moustached Warbler *Acrocephalus melanopogon*	11/10/02	25/10/02	Aammiq Marsh 33.46'N 35.46'E	Hula Reserve, Hula Valley 33 04'N 35 36'E	15

Table C (appendix) shows the species ringed thus far, plus the number of each species ringed and how many were re-trapped.

Table D (appendix) is a ten-day chart used for *figures 1 and 2.*

Figures 1 and 2 (appendix) graph the most common reedbed species over time during the spring months.

Discussion

A Rocha Lebanon's ringing scheme is still quite new, and the number of birds caught to date is not enough to establish significant trends. In the first months of the scheme there

was also a lot of explorative work to establish which sites would work best for ringing. It was established that the wooded area of Sit Shaweni and the Central Reeds site were the most consistently productive ringing sites in the area. It is also true that more emphasis has been placed on training than on running a strict systematic scheme (such as a Constant Effort Site). With this said, much valuable information has been gained by the ringing efforts thus far.

Table C (appendix) shows the number of species caught and ringed, and the number of retraps. The typical reedbed species of the marsh represent the largest total of birds caught, and reed warbler *Acrocephalus scirpaceus* was by far the most common species ringed. It is interesting to note the number of re-traps between species. For the reedbed species, reed warbler and moustached warbler *Acrocephalus melanoponon* are interesting to look at because the percentage of re-traps for reed warbler is significantly lower than moustached warbler. Also, the percentages show that many more moustached warblers were retrapped more than once. The numbers appear to suggest that many of the reed warblers caught during the spring use the marsh as a stop-over site, whereas most of the moustached warblers end their migration at the marsh and use it as a breeding grounds. Further comparison studies of these two species and how they use the marsh could be quite useful.

With respect to woodland species, perhaps most interesting are the blackbird *Turdus merula* and nightingale *Luscinia megarhyncos*. The majority of these two species were caught at the Sit Shaweni site. Blackbird, which would be considered a much more local bird, showed proportionately a much lower re-trap total compared with nightingale. What this may suggest is first of all that the area of Sit Shaweni is important for breeding nightingales, and secondly, that blackbirds are actually more transient in the area than expected.

Another important finding from the ringing efforts is that Blackcap *Sylvia atricapilla* and Spotted Flycatcher *Muscicapa striata* are breeding along the hillsides above the marsh. This was established by checking individuals for brood patches (usually females) and cloacal protuberances (males), which are signs of breeding birds. Establishing breeding records such as this is very important in terms of the local ecology.

Figures 1 and 2 (appendix) give an indication of when adults arrive in the reedbeds and when their young begin to fledge, respectively. The figures are included simply to show the types of graphs that can be produced from the data. Obviously, the more ringing done on the marsh, and the more consistent the efforts are, the more accurate these graphs will become. The figures are especially valuable in showing when the first fledgings appeared over the two years. Moustached warblers began fledging during the second week of May, roughly four weeks before any of the other reedbed warblers began. The rest of the reedbed warbler juveniles began fledging around the second week of June.

Table A (results) breaks down the totals caught by month. By far the most birds were caught during the month of April, but this is also the month with the most ringing sessions. The individual mean/session gives the most accurate picture of the numbers

one would expect to catch for each month. The difference between autumn numbers and spring numbers is consistent with autumn and spring totals from the census count done on the Aammiq Marsh. Reasons for this would be interesting to explore. Much of the difference may be due to the lack of water in the marsh during the autumn migration, but more consistent ringing efforts on the marsh would need to be done to support this, which leads to the recommendations for future ringing work (below).

Table B (results) shows the recoveries (bird ringed at the Aammiq Marsh and reported elsewhere) and controls (birds ringed elsewhere and caught at the Aammiq Marsh). As the chart indicates, eight of the fourteen controls and recoveries were moustached warblers. Five of them were ringed or controlled at the Dafna Fish Ponds, and three at the Hula Valley Reserve, both sites roughly 45 km south of the marsh. The data appear to suggest that the moustached warblers breed at the Aammiq marsh and spend their non-breeding months further south.

Most remarkable of the moustached warbler controls is the one ringed on 11/10/02 and then controlled fifteen days later at the Dafna fish ponds. The timing of when this bird was ringed brings up an interesting point. Many moustached warblers, as well as many other reedbed warblers, were ringed during the autumn months of 2002. This is likely due to the fact that water, quite unusually, remained in the marsh well into the autumn months. Evidence from the census count shows that for the previous dry years of 2000 and 2001, most reedbed species had left the marsh by July of both years. The census count also shows that there were many more species recorded during August 2002 compared with 2000 and 2001. All of this appears to show that the amount of water in the marsh significantly impacts the number of birds in the marsh.

The control data and census data indicate that many moustached warblers use the marsh to breed and then head south for the winter months. Would moustached warblers remain year-round if the marsh maintained at least some water year-round? It is quite likely that this was the case only a few decades ago when the marsh did not dry up. In terms of restoration ecology, efforts to maintain water in the marsh throughout the year would likely benefit bird populations greatly. This is an area that needs further study. What impact does fluctuating water levels and the drying up of the marsh have on bird populations? A constant effort site for the Central Reeds would help to answer this question, and it is highly recommended that this is the next step taken for the ringing scheme.

All was in place to begin a CES in the marsh for the spring of 2003. However, the political situation in the region required that field work be discontinued during this time. The plan was to consistently ring at the Central Reed site throughout the spring (mid Feb.to beginning of May) and autumn (mid Aug.to mid Nov.) for at least 12 sessions per season. Three 60-foot nets were to be used and placed in the same location for each session. Each net was designated a color (red, blue and white). For each net, birds caught would be placed in corresponding colored bags and noted accordingly on the data sheet. Water levels at the site were also to be monitored.

One of the great benefits of running a CES is that the data can more easily be compared with data from other CES schemes. On a local level, the systematic method will provide consistent data which will be easier to analyze. Coupling a CES with water-level monitoring will provide powerful information on how water levels effect bird populations in the marsh, and will aid in future management of the Aammiq wetlands.

In closing the discussion, there have been glimmers of hope but no real movement towards a government-run, national ringing scheme in Lebanon. If one is begun, A Rocha Lebanon should conform their ringing system to fit the national scheme. If no national scheme develops in the near future, A Rocha should consider sending their data directly to EURING. All efforts should be made to ensure that the measurements and method are consistent with EURING's requirements.

Conclusion

A Rocha Lebanon's ringing scheme is still in its initial stages of development. However, some general conclusions can be made from the data collected thus far. As with the conclusions from the census count, the data from the ringing support the notion that any efforts to maintain water in the marsh for as long as possible will benefit bird populations. The ringing scheme has also established that blackcap and spotted flycatcher breed in the area of Aammiq. It is highly recommended that implementing a CES should be the next step taken for the scheme. Data collected from a CES is consistent, can be easily compared with CES's in other countries and will aid in future conservation efforts on the marsh.

Acknowledgments

Thanks to Andy Pratt who assisted in the data analysis for this report.

References

BTO (2001) Ringers Manual. Thetford.

Baker, K. (1993) Identification Guide to the European Non-Passerines. Norfolk.

Svensson, L. (1992) Identification Guide to European Passerines. 4th edition. Stockholm.

Appendix

Table C: Species ringed showing total retraps and number of individuals retrapped

English Name	Latin Name	New	Retraps	Ind Retraps	% Ind Retraps
Little Bittern	Ixobrycus minutus	11			
Spotted Crake	Porzana porzana	2			
Little Crake	Porzana parva	3			
Moorhen	Gallinula chloropus	1			
Wood Sandpiper	Tringa glareola	1			
Turtle Dove	Streptopelia turtur	3			
Great-spotted Cuckoo	Clamator glandarius	2			
Cuckoo	Cuculus canorus	1			
House Martin	Delichon urbica	1			
Water Pipit	Anthus spinoletta	1			
Yellow Wagtail	Motacilla flava	2			
Citrine Wagtail	Motacilla citreola	1			
Wryneck	Jynx torquilla	3			
Dunnock	Prunella modularis	1			
Bluethroat	Luscinia svecica	20	3	2	10.00
Short-toed Lark	Calandrella brachydactyla	1			
Crested Lark	Galerida cristata	2			
Woodlark	Lullula arborea	2			
Whinchat	Saxicola rubetra	2			
Song Thrush	Turdus philomelos	5			
Stonechat	Saxicola torquata	1			
Sand Martin	Riparia riparia	71			
Swallow	Hirundo rustica	426	2	2	0.47
Tree Pipit	Anthus trivialis	1			
Red-throated Pipit	Anthus cervinus	1			
Robin	Erithacus rubecula	55	5	4	7.27
Fan-tailed Warbler	Cisticola jundidis	1			
Wren	Troglodytes troglodytes	26	5	3	11.54
Thrush Nightingale	Luscinia luscinia	20			
Nightingale	Luscinia megarhyncos	23	9	7	30.43
Marsh Warbler	Acrocephalus palustris	12			
Black Redstart	Pheonicurus ochruros	1			
Redstart	Phoenicurus phoenicurus	18			
Black-eared Wheatear	Oenanthe hispanica	1			
Blackbird	Turdus merula	85	5	4	4.71
Semi-collared Flycatcher	Ficedula semitorquata	1			
Cetti's Warbler	Cettia cetti	98	57	27	27.55
Graceful Prinia	Prinia gracilis	2			

Savi's Warbler	Locustella luscinioides	54	21	11	20.37
Moustached Warbler	Acrocephalus melanopogon	265	181	76	28.68
Sedge Warbler	Acrocephalus schoenobaenus	183	11	11	6.01
Reed Warbler	Acrocephalus scirpaceus	897	189	121	13.49
Great Reed Warbler	Acrocephalus arundinaceus	202	42	29	14.36
Olivaceous Warbler	Hippolais pallida	28	4	2	7.14
Sardinian Warbler	Sylvia melanocephala	47	2	2	4.26
Orphean Warbler	Sylvia hortensis	9			
Barred Warbler	Sylvia nisoria	1			
Lesser Whitethroat	Sylvia curruca	93	7	7	7.53
Whitethroat	Sylvia communis	3			
Garden Warbler	Sylvia borin	23			
Blackcap	Sylvia atricapilla	242	5	4	1.65
Spanish Sparrow	Passer hispaniolensis	2			
Eastern Bonelli's Warbler	Phylloscopus orientalis	2			
Wood Warbler	Phylloscopus sibilatrix	12			
Chiffchaff	Phylloscopus collybita	108	8	7	6.48
Willow Warbler	Phylloscopus trochilus	34			
Spotted Flycatcher	Muscicapa striata	26	2	1	3.85
Collared Flycatcher	Ficedula albicollis	9			
Pied Flycatcher	Ficedula hypoleuca	4			
Sombre Tit	Parus lugubris	8			
Greenfinch	Cardeuelis chloris	5			
Great Tit	Parus major	15			
Rock Nuthatch	Sitta neumayer	6			
Penduline Tit	Remiz pendulinus	16			
Masked Shrike	Lanius nubicus	2			
European Jay	Garrulus glandarius	3			
Pale Rock Sparrow	Carpospiza brachydactyla	14			
Rock Sparrow	Petronia petronia	15			
Chaffinch	Fringilla coelebs	15	1	1	6.67
Reed Bunting	Emberiza schenicl us	2			
Corn Bunting	Miliaria calandra	1			
Syrian Serin	Serinus syriacus	14			
Linnet	Carduelis cannabina	40			
Rock Bunting	Emberiza cia	12			
Black-headed Bunting	Emberiza melanocephala	1			
Grand Total		3321	559	3881	

For the following graphs, the x-axis is divided into 10-day sections as follows:

Table D: 10 day periods

1 = JAN 1-9	9 = MAR 20-29	17 = JUN 8-17	25 = AUG 27-6 SEP	33 = NOV 15-24
2 = JAN 10-19	10 = MAR 30-8 APR	18 = JUN 18-27	26 = SEP 7-15	34 = NOV 25-4 DEC
3 = JAN 20-29	11 = APR 9-18	19 = JUN 28-7 JUL	27 = SEP 16-25	35 = DEC 5-14
4 = JAN 30-8 FEB	12 = APR 19-28	20 = JUL 8-17	28 = SEP 26-5 OCT	36 = DEC 15-24
5 = FEB 9-18	13 = APR 29-8 MAY	21 = JUL 18-27	29 = OCT 6-15	37 = DEC 25-30
6 = FEB 19-28	14 = MAY 9-18	22 = JUL 28-6 AUG	30 = OCT 16-25	
7 = FEB 29-9 MAR	15 = MAY 19-28	23 = AUG 7-16	31 = OCT 26-4 NOV	
8 = MAR 10-19	16 = MAY 29-7 JUN	24 = AUG 17-26	32 = NOV 5-14	

Abbreviations used in the following graphs:

Reewa- Reed warbler *Acrocephalus scirpaceus*
Mouwa- Moustached warbler *Acrocephalus melanopogon*
Grrwa- Great reed warbler *Acrocephalus arundinaceus*
Sedwa- Sedge warbler *Acrocephalus schoenobaenus*
Cetwa- Cetti's warbler *Cettia cetti*
Savwa- Savi's warbler *Locustella luscinioides*

Fig.1 Common Reedbed species (2001-2002) and all captures ages 2,4,5, and 6

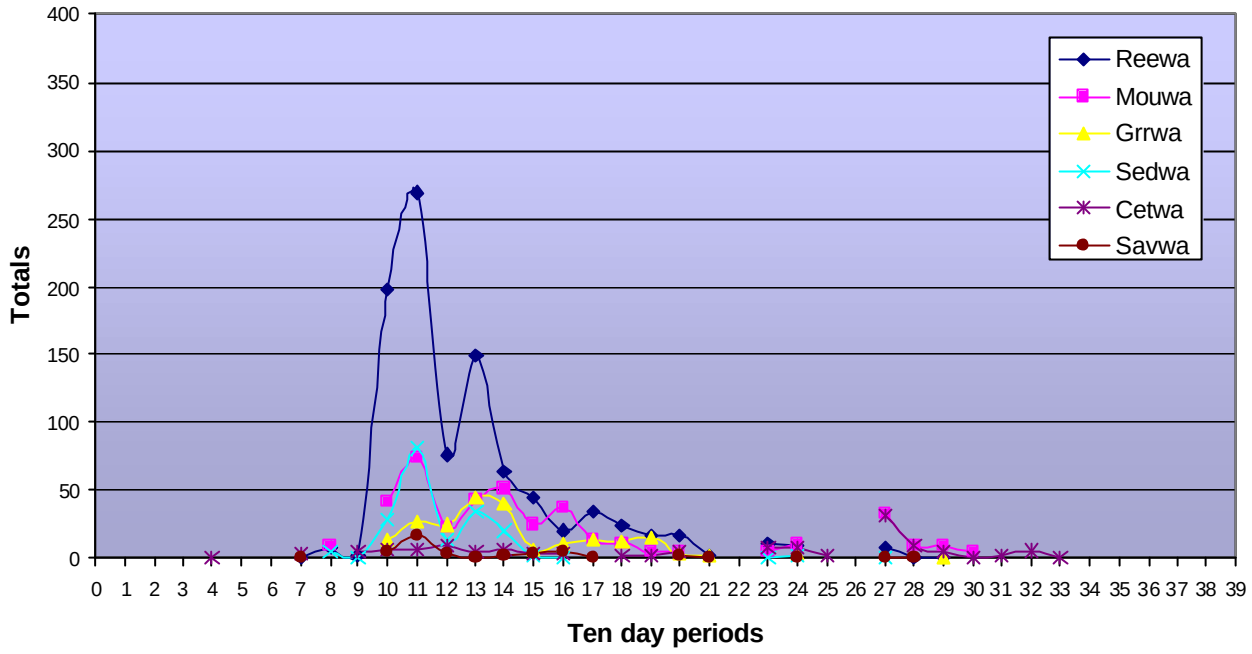
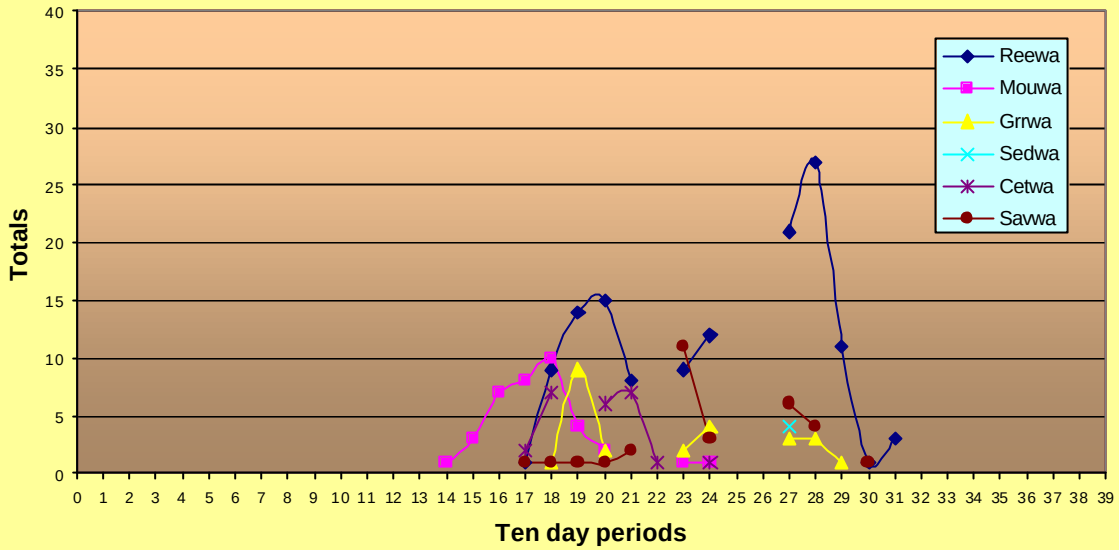


Fig. 2 Common reedbed species (2000-20011) all captures - Age 3 only



List of materials:

-Full set of rings
-Six 60-foot mist nets
-Six 40-foot mist nets
-2 Pliers
-1 Circlips
-2 Guided rulers
-1 Sliding calipers
-Six BTO metal poles
-Numerous bamboo poles
-Various guy
-~80 bird bags
-Ringing table with hooks
-Pocket knife