

# Scarlet Macaw Observations in the Chiquibul Forest, 1994-96

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## Introduction

We have been very fortunate at Las Cuevas that the Chiquibul Scarlet Macaws (*Ara macao*) have frequently graced our area with their presence. Having permanent residents at Las Cuevas since July 1994, it has been possible to put together the most comprehensive collection of macaw sightings in Belize. A full list of recorded sightings from February 1995 to July 1996 is given in Appendix 1; these observations have been passed onto Dr. Elizabeth Mallory for detailed analysis, here we summarise the observations and attempt to include any other information that we have picked up over the past two years.

## Group size

Just over half the sightings were of single pairs, a result reflecting the observations of Mallory (1994) in the Raspaculo area of the Chiquibul. However, during her study, single macaws were the second most frequent group size observed, while our observations show groups of three and four to be much more frequent than singles. The frequency with which different group sizes were observed is given in Table 1 below:

Table 1: Group size

Group size	1	2	3	4	5	6	7	8	9	10	11	>11
Frequency	15	200	59	47	10	12	7	8	3	3	2	30

(Note: The three 10+ records in Appendix 1 have been included in the >11 size class).

## Flocking

Observations on large flocks of macaws are perhaps the most useful for estimating population size in Belize, as it is probable that during certain times of the year virtually the entire Belizean population flocks together (Mallory, 1994). A summary of all reports of flocks of 19 or more macaws in the Chiquibul from July 1994 to July 1996 is given in Table 2.

During the second half of June 1995, a flock of 20+ macaws spent the day-times in the trees on the edge of the Las Cuevas clearing, almost always in one or more of three specific trees, the Barbajolote (*Pithecellobium arboreum*) and the Fig (*Ficus* sp.) to the west of the main building, and the Jobillo (*Astronium graveolens*) in the north-west corner of the clearing. During the first half of June, groups of 2 or 4 macaws were observed around the clearing, then on the 16<sup>th</sup> June, a flock of 19 arrived. From the 20<sup>th</sup> to the 24<sup>th</sup> a flock of 20-30 macaws was resident in the clearing, but counting proved difficult. On the 25<sup>th</sup>, the flock flew in together at 08:30, consisting of 31 birds. Over the

next two days a much smaller group, about 10 birds, stayed at Cuevas, then from 28<sup>th</sup> June to 3<sup>rd</sup> July single pairs were observed. On the 4<sup>th</sup> July, a flock of 41 (apparently the largest number of macaws ever reported in Belize, see Mallory, 1994), flew in to the clearing in two groups, one of 26 and one of 15. After this, macaws were not seen at Las Cuevas until small groups were reported frequently from 18<sup>th</sup> July to the end of October.

In 1996, a flock of 27 flew past Las Cuevas on the 17<sup>th</sup> June, without stopping in the clearing. The largest number observed in the clearing in June 1996 was 15 on the 10<sup>th</sup>, with an additional pair flying past while the flock was still settled. A large number of macaws were observed around Las Cuevas in July 1996, but usually just flying past, presumably on the way to and from Monkey Tail where flocks of greater than 20 birds were seen settled and feeding on two occasions. The two largest flocks seen in July 1996 were of 22 (16<sup>th</sup>) and 34 (23<sup>rd</sup>) birds, the flock of 34 splitting at Las Cuevas, 23 continuing eastwards (towards Monkey Tail) and 11 stopping in the Jobillo in the clearing for part of the day (plus two more macaws which arrived from the same direction ten minutes later).

During the beginning of May 1996, a lot of macaw activity could be heard to the east of Las Cuevas, with a flock of 20+ birds being observed a couple of kilometres down the Monkey Tail trail on the 5<sup>th</sup>.

Even earlier in 1996, a flock of 30 birds was seen on 28<sup>th</sup> March from a helicopter about 5 miles east of the junction between the Raspaculo and Monkey Tail branches.

In November 1994, a flock of 31 macaws was seen with more vocalising nearby near San Pastor (Bol, pers.obs.).

Table 2: Flocks >18 macaws in the Chiquibul, July 1994 to July 1996.

Date	Location	Number	Comments	Observer
4 Jul '95	Las Cuevas	41	26 then 15 fly from east and land in fig tree	Natalie Bol
23 Jul '96	Las Cuevas	34	fly from northwest, 23 fly on east, 11 (or 12?) stop in jobillo; 2 more fly from northwest 10 minutes later	Ali Robertson
Nov '94	San Pastor	31+	31 seen flying, more heard nearby	Nicodemus Bol
25 Jun '95	Las Cuevas	31	fly from west of Cuevas	Tony King
28 Mar '96	Raspaculo	30	sighted from helicopter about 5 miles east of junction of Raspaculo and Monkey Tail branches	David Sutton
21 Jun '95	Las Cuevas	upto 30	around the clearing much of the day	John Howell
17 Jun '96	Las Cuevas	27	flying east	Nicodemus Bol

25 Jun '95	Las Cuevas	26+	around the clearing much of the day	Tony King
16 Jul '96	Las Cuevas	22	flying east	Celia Bol
20-24 Jun '95	Las Cuevas	20+	around the clearing each day	Tony King
5 May '96	Las Cuevas	20+	about 1km east of Cuevas	John Howell
23 Jul '96	Monkey Tail	20+	20 in cohune tree feeding on nuts, more vocalising nearby	Nicodemus Bol
29 Jul '96	Monkey Tail	20+	in tree	Raleigh Int
2 Jul '96	Millionario	c20	flying between Millionario and Las Cuevas	Ali Robertson
16 Jun '95	Las Cuevas	19	in jobillo tree in clearing	Nicodemus Bol

The timing of flocking is thought to coincide with the ending of the breeding season (Mallory, 1994). However, combining the results given in Mallory (1994) and the observations given here, since 1985 flocks of 20+ macacaws have been reported in Belize in all months of the year except January, April, October and December.

### **Distribution of macaw sightings**

Apart from the area around Las Cuevas, macaws have been most frequently observed near rivers. It is now well accepted that the area of the Raspaculo River is very important to the macaws of Belize (see Mallory, 1994), and this view has been strengthened by the sighting of a large flock of 30 birds near there during March 1996. The observations given in Appendix 1b show that the Monkey Tail branch is another area favoured by the macaws; in July 1996 flocks of 20+ birds were seen there on two occasions, and in both 1995 and 1996 groups of upto 14 birds were observed on most visits to the Monkey Tail branch during the months February to April. Small groups have been reported from Puente Natural (Appendix 1c; Barlow & Caddick, 1989, in Mallory, 1994), Smokey Branch (Colston, 1995), and Rio Ceiba Grande (Barlow & Caddick, 1989, in Mallory, 1994). Groups of 2-9 macaws have been seen on several occasions near New Maria camp (Appendix 1c), which is fairly close to the Macal River, along which Mallory (1994) reports several sightings. Interestingly, despite staff of Las Cuevas having passed over the Guacamallo bridge perhaps 4 times a week for 2 years, sometimes stopping for a while, there have been no reports of macaw sightings from there. It appears that the macaws stay east of the bridge.

Macaws have been sighted in or near the large *Ceiba* tree beside the Chiquibul Road near Christina Camp on several occasions in 1994 (a group of about ten birds seen frequently in July '94 (Bol, pers.obs.)), 1995, and 1996.

Staff of Las Cuevas have spent a considerable amount of time at Grano de Oro, but only twice have macaws been reported from that area (Appendix 1c).

### Seasonality of macaw activity at Las Cuevas

Table 3 below gives the numbers of days on which macaws were sighted from Las Cuevas for each half month since February 1995. It appears that most activity in the Las Cuevas area occurs during the wettest times of the year, in 1995 from mid-May to mid-October, and in 1996 from mid-April.

Table 3: Macaw activity at Las Cuevas

Date	Days sighted 1995	Days sighted 1996	Rainfall 1995	Rainfall 1996
1-15 January	-	2	-	24.35
16-31 January	-	1	-	24.0
1-14 February	1	1	-	-
15-29 February	1	1	-	-
1-15 March	2	0	-	76.15
16-31 March	0	1	-	12.3
1-15 April	0	6	-	16.45
16-30 April	3	14	-	72.8
1-15 May	3	9	-	86.05
16-31 May	10	6	17.75	113.7
1-15 June	4	11	49.5	40.1
16-30 June	13	14	194.35	46.9
1-15 July	4	15	116.5	72.4
16-31 July	6	15	68.0	136.47
1-15 August	4		119.0	
16-31 August	8		242.0	
1-15 September	7		147.6	
16-30 September	8		85.0	
1-15 October	8		185.7	
16-31 October	4		87.6	
1-15 November	0		22.0	
16-30 November	2		69.5	
1-15 December	5		97.65	
16-31 December	3		1.55	

During the times of low macaw activity at Las Cuevas, February to mid-May 1995, and mid-October 1995 to mid-April 1996, macaws were observed in fairly large groups in the areas of the Monkey Tail (March 1995, February to mid-April 1996) and Raspaculo (March 1996) Branches. (A lack of reports from mid-October 1995 to February 1996 leaves the location of the macaws at this time in doubt). It is possible that during the dry weather the macaws were centred on the riverine areas of the Raspaculo, Monkey Tail and Macal, and then during the wetter weather they moved slightly further from the rivers, centring their activity in the vicinity of Las Cuevas.

## **Feeding Observations**

Observations of macaws feeding have been rare. However, macaws have been seen feeding on the fruits (or rather, the seeds, Mallory, 1994), of the following trees (Bol, pers.obs., A.Howe, pers.comm.):

Fig (*Ficus* spp.), Barbajolote (*Pithecellobium arboreum*), White Poison Wood (*Sebastiania longicuspis*), Cohune (*Orbignya cohune*), Fiddlewood (*Vitex gaumeri*), Tempiste (*Sideroxylon capiri tempisque*), Breadnut (*Brosimum alicastrum*).

## **References**

Colston, P.R., 1995, *A survey of forest birds recorded at the Smokey Branch exploration concession, Maya Mountains, Belize during May 1995*. A report for BHP Minerals Incorporated. The Natural History Museum, London. 22pp.

Mallory, E.P., 1994, *Scarlet Macaws in the Upper Raspaculo River Basin, Maya Mountains, Belize*. In: Rogers, A.D.F., Sutton, D.A. & Stafford, P.J. (eds.), *Report of the Joint Services Scientific Expedition to the Upper Raspaculo River, Belize, Central America April-June 1993*. The Natural History Museum, London.

**Appendix 1a: Scarlet macaw observations at Las Cuevas research station, February 1995 to July 1996.**

Date	Time	Number	Comments	Observer
11-Feb-95	10:00	4	flying west to east	Nicodemus Bol
21-Feb-95		4	fly east to west, north of Cuevas	Nicodemus Bol
08-Mar-95	07:45	2	fly west to east, north of Cuevas	Nicodemus Bol
12-Mar-95		2	fly west to east, north of Cuevas	Nicodemus Bol
16-Apr-95	09:00	4	fly north of Cuevas	Celia Bol
18-Apr-95		2	fly east to west, north of Cuevas	Nicodemus Bol
19-Apr-95	05:20	2	fly west to east, north of Cuevas	Nicodemus Bol
13-May-95	09:23	2	sitting on Barbajolote tree west of Cuevas, flew off south at 09:37	Nicodemus Bol
14-May-95	08:15	4	stay all day in Barbajolote and Fig trees, roost the night	Nicodemus Bol
15-May-95	06:43	4	fly from Barbajolote tree going north	Nicodemus Bol
15-May-95	10:35	4	fly east, north of Cuevas	Nicodemus Bol
21-May-95	06:00	2	fly southeast, east of Cuevas	Tony King
21-May-95	10:30	2	fly north over Cuevas	Tony King
23-May-95	17:45	2	fly south of Cuevas	Tony King
24-May-95	06:30	2	fly SW over Cuevas from NE	Tony King
25-May-95		2	fly west to east over Cuevas, morning?	Nicodemus Bol
25-May-95	18:30	2	fly north-west, over Cuevas	Nicodemus Bol
26-May-95	05:37	4	arrive in Fig tree, then fly to jobillo, fly off 09:20	Nicodemus Bol
26-May-95	17:00	4	arrive back at Cuevas, stay the night in the jobillo	Nicodemus Bol
27-May-95	05:15	2	fly east from jobillo	Nicodemus Bol
27-May-95	17:30	2	arrive from east, spend night in jobillo	Nicodemus Bol
28-May-95	05:05	2	fly east from jobillo	Nicodemus Bol
28-May-95	18:00	2	fly northwest over Cuevas	Nicodemus Bol
29-May-95	18:30	2	fly west to east	Nicodemus Bol
30-May-95	13:18	2	sitting in fig tree from 13:18 to 17:30 the fly north	Nicodemus Bol
31-May-95	am/pm	4	sitting in fig tree all day	Nicodemus Bol
01-Jun-95	05:06	4	fly east from Fig tree	Nicodemus Bol
01-Jun-95	15:18	4	arrive back at Fig tree	Nicodemus Bol
09-Jun-95	08:40	2	sitting in Fig tree, fly east 10:30 when disturbed by helicopter	Nicodemus Bol
14-Jun-95	14:14	2	fly west to east over Cuevas	Nicodemus Bol
15-Jun-95	08:00	2	sitting in Fig tree 08:00 to 14:00	Nicodemus Bol
16-Jun-95	09:30	6	fly from FPMP Cuevas plot, over FPMP San Pastor plot, then towards Cuevas	Tony King
16-Jun-95	10:00	19	sitting in jobillo	Nicodemus Bol
17-Jun-95	16:30	7	feeding on fruit of White Poison Wood ( <i>Sebastiania longicuspis</i> ) along track between Cuevas and Pastor FPMP plots	Augustine Howe
17-Jun-95	am/pm	15	15+ around Cuevas much of the day, often in Fig and Barbajolote trees	Tony King
18-Jun-95	16:00	11	feeding on fruit of White Poison Wood ( <i>Sebastiania longicuspis</i> ) along track between Cuevas and Pastor FPMP plots	Augustine Howe
18-Jun-95	am/pm	10	10+ around Cuevas much of the day, often in Fig and Barbajolote trees	Tony King
19-Jun-95	17:30	1	flies from SE of Cuevas towards Fig &	Tony King

			Barbajolote trees, doesn't settle, turns and flies SW towards San Pastor FPMP plot	
19-Jun-95	am/pm	10	10+ around Cuevas much of the day, often in Fig and Barbajolote trees, gone by 17:00	Tony King
20-Jun-95	am/pm	20	about 20 around Cuevas much of the day, often in Fig and Barbajolote trees	Tony King
21-Jun-95	am/pm	30	upto 30 around Cuevas much of the day, often in Fig and Barbajolote trees	John Howell
22-Jun-95	am/pm	20	about 20 around Cuevas much of the day, often in Fig and Barbajolote trees	Tony King
23-Jun-95	am/pm	20	about 20 around Cuevas much of the day, often in Fig and Barbajolote trees	Tony King
24-Jun-95	am/pm	20	20+ around Cuevas much of the day, often in Fig and Barbajolote trees	Tony King
25-Jun-95	08:30	31	fly from west of Cuevas to edge of Cuevas clearing, 25 turn north, 6 fly southeast, none stopping at Cuevas	Tony King
25-Jun-95	08:32	2	fly north from southeast of Cuevas	Tony King
25-Jun-95	09:00	26	26+ around Cuevas much of the day	Tony King
26-Jun-95	am/pm		many around Cuevas much of the day	Tony King
27-Jun-95	am/pm	10	10+ around Cuevas during morning and during afternoon	Tony King
28-Jun-95	07:30	2	fly west, south of Cuevas	Tony King
28-Jun-95	11:00	2	fly west to east over Cuevas	Tony King
01-Jul-95	15:30	2	fly east over Cuevas	Tony King
02-Jul-95	16:00	2	heard near Cuevas	Tony King
03-Jul-95	08:25	2	fly WNW, just north of Cuevas	Tony King
03-Jul-95	15:00	2	sitting on top of tree, fly off east at 15:30	Tony King
04-Jul-95	09:50	41	26 then 15 fly from east of Cuevas, land in fig tree	Natalie Bol
18-Jul-95	06:50	1	flying east to west	Celia Bol
19-Jul-95	09:02	2	fly from west to east	Nicodemus Bol
21-Jul-95	14:20	4	fly from west to east	Nicodemus Bol
24-Jul-95	12:38	4	fly from east to west, north of Cuevas	Nicodemus Bol
25-Jul-95	18:30	6	fly east to west over Cuevas	Tony King
31-Jul-95	16:20	3	fly west, north of Cuevas	Nicodemus Bol
04-Aug-95	14:15	3	fly west, north of Cuevas	Nicodemus Bol
11-Aug-95	18:10	3	fly west, north of Cuevas	Nicodemus Bol
12-Aug-95	18:25	3	fly west, north of Cuevas	Nicodemus Bol
14-Aug-95	06:00	3	sitting in cotton wood (Ceiba) from 06:00 to 07:40	Nicodemus Bol
17-Aug-95	18:20	3	fly west, north of Cuevas	Nicodemus Bol
18-Aug-95	10:18	4	fly east to west	Nicodemus Bol
18-Aug-95	18:10	4	fly over Cuevas (west to east?)	Nicodemus Bol
22-Aug-95	17:48	3	fly east, north of Cuevas	Nicodemus Bol
23-Aug-95	06:02	6	fly east to west	Nicodemus Bol
24-Aug-95	am/pm	6	fly around Cuevas 07:42 to 15:19	Nicodemus Bol
25-Aug-95	17:50	3	fly west to east	Nicodemus Bol
30-Aug-95	05:30	3	fly west over Cuevas	Nicodemus Bol
31-Aug-95	17:15	3	fly west over Cuevas	Nicodemus Bol
01-Sep-95	17:55	3	settle in jobillo for about five minutes	Tony King
02-Sep-95	09:15	2	settle in jobillo for about five minutes	Tony King
02-Sep-95	17:15		macaw heard flying from east towards Cuevas	Tony King
06-Sep-95	07:00	3	fly from west to Cuevas, turn and fly north	Tony King

06-Sep-95	08:00	3	in Barbajolote tree	Tony King
09-Sep-95	07:30	3	settle in jobillo for several minutes, then fly to tree at SW corner of compound beside road before flying off west along the road	Tony King
10-Sep-95	14:15	3	seen from observation tower, flying from around Cuevas base west more or less along the road	Tony King
10-Sep-95	14:35	3	seemingly feeding in small fig tree beside main road at entrance to the path to the observation tower. When disturbed flew west along the road and settled in a tree 100m away. Soon returned to same fig tree, but disturbed again (14:45) and flew to Cuevas,	Tony King
11-Sep-95	16:30	3	fly from west to east, over north edge of compound	Tony King
12-Sep-95	05:30	3	sitting on cotton wood (Ceiba), flew off south 06:45	Nicodemus Bol
16-Sep-95	17:00	3	in jobillo, fly off east	Tony King
17-Sep-95	06:45	5	a group of 2 and then a group of 3 fly west to east over Cuevas	Tony King
17-Sep-95	17:00	3	fly west, north of Cuevas	Nicodemus Bol
18-Sep-95	05:30	3	sitting on cotton wood (Ceiba), fly south 10 minutes later	Nicodemus Bol
20-Sep-95	05:15	4	fly west over Cuevas	Nicodemus Bol
22-Sep-95	07:15	3	fly west to east over northern boundary of compound	Tony King
24-Sep-95	13:30	3	arrive from west, circle over cedar and breadnut trees, low over Cuevas building, and back to the tall tree behind Barbajolote west of Cuevas. Sit on top of tree quietly through ten minutes of heavy rain, then fly off southeast at about 14:00 once rain st	Tony King
25-Sep-95	17:30	3	fly over Cuevas	Nicodemus Bol
26-Sep-95	05:45	4	just flying over Cuevas from 05:45 to 07:30	Nicodemus Bol
26-Sep-95	17:30	4	sitting on jobillo	Nicodemus Bol
02-Oct-95		3	flying	Nicodemus Bol
06-Oct-95	17:00	3	around Cuevas for 10 minutes	Tony King
06-Oct-95	am	3	around Cuevas during morning	Tony King
07-Oct-95	am	3	at Cuevas in the morning	Tony King
09-Oct-95	13:30	3	sitting on jobillo then fly off east	Nicodemus Bol
12-Oct-95	am/pm	3	flying around Cuevas all day	Nicodemus Bol
13-Oct-95	10:30	3	sitting on fig tree	Nicodemus Bol
13-Oct-95	11:30	5	flying around	Nicodemus Bol
14-Oct-95	05:40	3	sitting on fig tree 05:40 to 07:30	Nicodemus Bol
14-Oct-95	16:40	3	arrive from east, roost in fig tree for the night	Nicodemus Bol
15-Oct-95	05:50	3	sitting in fig tree, fly east 06:38	Nicodemus Bol
15-Oct-95	16:00	3	arrive from east, settle in jobillo	Nicodemus Bol
20-Oct-95	am/pm	3	around Cuevas during daytime	Tony King
21-Oct-95	am/pm	3	around Cuevas during daytime	Tony King
22-Oct-95	am/pm	3	around Cuevas during daytime	Tony King
23-Oct-95	am/pm	3	around Cuevas during daytime	Tony King
16-Nov-95	16:30	5	fly east to west in two groups	Chris Lyal
20-Nov-95	07:05	3	at Cuevas til 07:05, fly off east	Tony King
01-Dec-95	16:45	1	1? in jobillo	Tony King



02-Dec-95	07:30		2 or 3 heard west of Cuevas	Tony King
04-Dec-95	07:15		2 or 3 heard southwest of Cuevas	Tony King
04-Dec-95	07:25	7	5 then 2 fly high over Cuevas going WSW	Tony King
11-Dec-95	17:10	3	fly east to west over Cuevas	Nicodemus Bol
12-Dec-95	06:20	2	on jobillo then fly west	Nicodemus Bol
21-Dec-95	14:00	2	fly south over FPMP plot	Tony King
25-Dec-95	07:30	2	fly east to west, north of Cuevas	Tony King
30-Dec-95	06:30	3	fly low over Cuevas going east	Tony King
13-Jan-96	07:00	3	fly east to west over Cuevas	Nicodemus Bol
15-Jan-96	17:30	3	fly north over Cuevas	Nicodemus Bol
16-Jan-96	06:30	3	fly south-east over Cuevas	Nicodemus Bol
07-Feb-96	14:20	4	2 pairs, 100m apart, fly high from north of Cuevas going south-east, go around eastern edge rather than over compound	Tony King
28-Feb-96	12:55	2	fly over Cuevas from northwest going east	Nicodemus Bol
21-Mar-96	07:30	5	fly east, south of Cuevas	Nicodemus Bol
03-Apr-96	15:00	2	fly north over Cuevas	Natalie Rosado
04-Apr-96	06:29	2	fly north, north of Cuevas	Nicodemus Bol
11-Apr-96	14:44	2	flying around	Nicodemus Bol
12-Apr-96	15:30	2	fly from east of Cuevas having been disturbed by Land Rover going down Monkey Tail track, land in big fig tree on west side of clearing, making big racket. 10 minutes later fly over to jobillo in NW corner of clearing	Tony King
13-Apr-96	06:10	1	flies north-east over Cuevas	Tony King
14-Apr-96	06:18	2	fly from south going north	Nicodemus Bol
16-Apr-96	12:00	2	fly from north of Cuevas	Natalie Bol
17-Apr-96	14:30	2	fly from north to south	Natalie Bol
18-Apr-96	05:50	3	flying around Cuevas, then head off north-east	Nicodemus Bol
18-Apr-96	10:00	5	fly east, north of Cuevas	Nicodemus Bol
18-Apr-96	16:15	8	fly north to east	Natalie Rosado
19-Apr-96	08:45	1	fly from north to south-east	Nicodemus Bol
19-Apr-96	17:30	2	fly south to north, just east of Cuevas	Tony King
20-Apr-96	06:25		heard east of Cuevas	Tony King
21-Apr-96	06:25		heard east of Cuevas	Tony King
21-Apr-96	15:30		heard east of Cuevas	Tony King
22-Apr-96	16:10	7	2 pairs then 3 singles fly from south of Cuevas to east	Augustine Howe
23-Apr-96	09:50	2	fly north-east over FPMP plot	Tony King
23-Apr-96	15:30		heard east of Cuevas	Tony King
23-Apr-96	18:00	2	fly east just south of Cuevas	Tony King
24-Apr-96	16:00	2	fly south of Cuevas	Celia Bol
24-Apr-96	18:00	2	fle east, just south of Cuevas	Tony King
25-Apr-96	16:00	2	fly north-east, just north of Cuevas	Tony King
26-Apr-96	09:45	3	fly south, west of Cuevas	Nicodemus Bol
27-Apr-96	05:40	2	fly north over Cuevas	Nicodemus Bol
28-Apr-96	18:30	2	fly north, west of Cuevas	Nicodemus Bol
30-Apr-96	10:30	2	fly north over Cuevas	Nicodemus Bol
30-Apr-96	17:05	2	fly west, north of Cuevas	Nicodemus Bol
02-May-96	07:20	8	6 fly west, just south of Cuevas, then 2 fly north just east of Cuevas before flying west, north of Cuevas. 2 fly back from north of	Tony King

			Cuevas to east	
03-May-96	17:25	2	fly west to east, north of Cuevas	Tony King
03-May-96	17:35	6	fly west to east, north of Cuevas	Tony King
03-May-96	18:10	5	fly west to east, north of Cuevas	Tony King
04-May-96	05:55	2	fly east to west, north of Cuevas	Tony King
04-May-96	07:40	2	fly west to east, north of Cuevas	Tony King
04-May-96	08:00	2	fly west to east, north of Cuevas, stop briefly in jobillo in NW corner	Tony King
04-May-96	09:00	4	fly from east and settle in jobillo; 2 fly off 09:15 going south-east	Tony King
04-May-96	09:00	2	fly west to east, north of Cuevas	Tony King
04-May-96	15:10	4	fly east to west, south of Cuevas	Natalie Rosado
04-May-96	17:10	4	fly west to east, north of Cuevas	Natalie Rosado
04-May-96	17:20	4	fly west to east, north of Cuevas	Natalie Rosado
04-May-96	17:25	2	fly west to east, north of Cuevas	Natalie Rosado
04-May-96	17:30	2	in jobillo, fly off east	Tony King
05-May-96	am	20	large flock (>20) seen about 1m down Monkey Tail track	John Howell
05-May-96	am/pm		macaws flying to and fro over Cuevas	Tony King
06-May-96	17:45	2	fly east, south of Cuevas	Nicodemus Bol
07-May-96	06:50	2	flying east of Cuevas	Nicodemus Bol
07-May-96	18:18	2	fly east, north of Cuevas	Nicodemus Bol
08-May-96	08:30	3	fly south, west of Cuevas	Nicodemus Bol
08-May-96	17:40	2	fly north over Cuevas	Nicodemus Bol
10-May-96	am/pm	3	flying around Cuevas all day	Nicodemus Bol
13-May-96	17:00	2	fly around Cuevas til 18:15	Nicodemus Bol
19-May-96	17:30	6	fly east over Cuevas	Nicodemus Bol
23-May-96	06:45	7	fly east over Cuevas	Nicodemus Bol
23-May-96	11:00	3	sitting in jobillo, fly off west at 14:00	Nicodemus Bol
24-May-96	07:05	4	fly west, north of Cuevas	Nicodemus Bol
26-May-96	17:30	2	fly east	Tony King
27-May-96	06:45	7	1,1,2 then 3 fly east to west, just north of Cuevas	Tony King
27-May-96	08:30	2	fly east, north of Cuevas	Tony King
27-May-96	09:00		heard south-west of Cuevas	Tony King
30-May-96	07:00	2	fly south-west, south of Cuevas	Tony King
30-May-96	08:12	3	fly east, north of Cuevas	Nicodemus Bol
30-May-96	10:45	2	fly east over Cuevas	Nicodemus Bol
01-Jun-96	07:18	2	fly east over Cuevas	Nicodemus Bol
02-Jun-96	08:30	2	fly east, north of Cuevas	Nicodemus Bol
02-Jun-96	14:30	1	fly west over Cuevas	Nicodemus Bol
04-Jun-96	08:40	2	fly east over Cuevas	Ali Robertson
05-Jun-96	11:05	2	fly east over Cuevas	Ali Robertson
06-Jun-96	06:10	2	fly west, south of Cuevas	Nicodemus Bol
06-Jun-96	10:00	2	fly north-east, north of Cuevas	Ali Robertson
06-Jun-96	15:30	1	fly south of Cuevas	Nicodemus Bol
06-Jun-96	15:48	2	fly east, south of Cuevas	Nicodemus Bol
06-Jun-96	17:30	3	fly east, north of Cuevas	Nicodemus Bol
06-Jun-96	18:05	2	fly east over Cuevas	Ali Robertson
08-Jun-96	10:30	2	fly east, north of Cuevas	Ali Robertson
10-Jun-96	09:00		heard flying east, south of Cuevas	Ali Robertson
10-Jun-96	09:35	2	fly from east to jobillo, stay 5 minutes then fly off west	Ali Robertson

10-Jun-96	10:40	2	fly west, south of Cuevas	Ali Robertson
10-Jun-96	10:50		heard a lot of activity south of Cuevas til 11:15	Ali Robertson
10-Jun-96	12:00	2	circling south-west of Cuevas	Ali Robertson
10-Jun-96	13:10	15	7 pairs plus 1 single fly from south-west, land in jobillo. Making short mewing calls different from flight call. Sit in pairs, quiten down after 10 minutes. 2 fly off east 14:05; 2 fly off east 14:15; rest fly off 14:35 when disturbed by helicopter	Ali Robertson
10-Jun-96	13:15	2	2 more fly east, Cuevas side of jobillo	Ali Robertson
11-Jun-96	08:40	2	fly west, north of Cuevas	Ali Robertson
11-Jun-96	09:35	3	fly north-east over Cuevas	Nicodemus Bol
12-Jun-96	05:10	2	in jobillo for 20 minutes	Tony King
12-Jun-96	14:45	2	fly east	Fran Ryland
12-Jun-96	16:10	2	fly east over road 1km north of Cuevas	Ali Robertson
12-Jun-96	16:20	11	fly east, north of Cuevas	David Sutton
12-Jun-96	16:20	9	3 pairs + 1 group of 3 fly east over road 1km north of Cuevas	Ali Robertson
13-Jun-96	06:45	2	in jobillo tree, fly off east	Nicodemus Bol
13-Jun-96	08:20	2	in jobillo, fly off north	Nicodemus Bol
13-Jun-96	17:50	4	fly east, north of Cuevas	Nicodemus Bol
14-Jun-96	06:35	2	fly north-west, north of Cuevas	Nicodemus Bol
14-Jun-96	06:40	2	fly west over Cuevas	Nicodemus Bol
14-Jun-96	08:45	2	fly west, north of Cuevas	Nicodemus Bol
14-Jun-96	17:45	4	2 pairs fly east	Chris Lyal
14-Jun-96	17:50	2	1 pair fly east	Chris Lyal
17-Jun-96	13:30	2	playing and kissing in fig tree til 16:10, fly off west	Nicodemus Bol
17-Jun-96	18:30	27	fly east, north of Cuevas	Nicodemus Bol
18-Jun-96	07:45	3	fly west, south of Cuevas	Nicodemus Bol
18-Jun-96	15:00	2	fly west, south of Cuevas	Nicodemus Bol
18-Jun-96	17:38	2	fly east, north of Cuevas	Nicodemus Bol
19-Jun-96	07:15	2	fly west, south of Cuevas	Nicodemus Bol
19-Jun-96	08:20	2	fly north-west, north of Cuevas	Nicodemus Bol
19-Jun-96	16:38	2	fly east, north of Cuevas	Nicodemus Bol
19-Jun-96	17:25	2	fly east, north of Cuevas	Nicodemus Bol
19-Jun-96	17:45	4	fly east, north of Cuevas	Nicodemus Bol
19-Jun-96	18:15	2	fly east, north of Cuevas	Nicodemus Bol
20-Jun-96	09:05	4	2 fly west and 2 fly east	Nicodemus Bol
20-Jun-96	09:40	2	fly east, north of Cuevas	Ali Robertson
20-Jun-96	09:42	2	fly west, south of Cuevas	Ali Robertson
20-Jun-96	18:30	2	fly north of Cuevas	Nicodemus Bol
20-Jun-96	18:55	2	fly north of Cuevas	Nicodemus Bol
21-Jun-96	17:10	2	fly east, north of Cuevas	Ali Robertson
22-Jun-96	06:45	2	fly west, over Cuevas	Nicodemus Bol
22-Jun-96	09:30	10	sitting in jobillo til 13:30	Nicodemus Bol
22-Jun-96	17:30	2	fly east, north of Cuevas	Nicodemus Bol
22-Jun-96	17:40	4	sitting on Cedar west of main building	Nicodemus Bol
22-Jun-96	18:50	2	fly east, north of Cuevas	Nicodemus Bol
23-Jun-96	05:10	4	fly west, north of Cuevas	Nicodemus Bol
23-Jun-96	08:45	6	fly east, north of Cuevas	Nicodemus Bol
23-Jun-96	17:15	2	sit in jobillo til 18:00, fly off east	Nicodemus Bol

23-Jun-96	18:13	2	fly east over Cuevas	Nicodemus Bol
24-Jun-96	05:10	2	fly west, north of Cuevas	Nicodemus Bol
24-Jun-96	06:00	2	fly west, north of Cuevas	Nicodemus Bol
24-Jun-96	07:00	2	fly west, over Cuevas	Nicodemus Bol
24-Jun-96	07:15	2	fly west, south of Cuevas	Nicodemus Bol
24-Jun-96	10:00	8	sit in jobillo til 16:00, 3 pairs fly off east and 1 pair fly off south	Nicodemus Bol
25-Jun-96	12:00	2	sit in jobillo til after 15:35	Ali Robertson
25-Jun-96	14:35	2	fly east to south-west, south of Cuevas	Ali Robertson
26-Jun-96	17:50	2	fly east, north of Cuevas	Tony King
26-Jun-96	18:00	2	fly east, north of Cuevas	Tony King
27-Jun-96	05:20	2	fly east, north of Cuevas	Nicodemus Bol
27-Jun-96	07:10	2	fly west, north of Cuevas	Nicodemus Bol
27-Jun-96	10:30	9	fly east, north of Cuevas	Nicodemus Bol
27-Jun-96	15:00	7	3 pairs + 1 single fly west, north of Cuevas	Ali Robertson
27-Jun-96	15:35	2	fly west, north of Cuevas	Ali Robertson
28-Jun-96	12:00	2	fly west, south of Cuevas	Ali Robertson
29-Jun-96	07:40	2	fly west, north of Cuevas	Ali Robertson
29-Jun-96	08:00	1	fly east, north of Cuevas	Ali Robertson
30-Jun-96	06:45	4	fly west, north of Cuevas	Tony King
30-Jun-96	07:45	2	fly east, north of Cuevas	Tony King
30-Jun-96	08:35	1	fly east, north of Cuevas	Tony King
30-Jun-96	10:30	2	fly east, north of Cuevas	Tony King
01-Jul-96			sighted various times around Las Cuevas	Nicodemus Bol
02-Jul-96	07:40	3	2+1 fly west, high over Cuevas	Tony King
02-Jul-96	13:38	2	sitting in jobillo tree in NW corner of clearing, facing each other	Ali Robertson
02-Jul-96	16:25	4	2 pairs fly north of Cuevas, one going east and one going southeast	Ali Robertson
02-Jul-96	17:45	2	fly east, north of Cuevas	Tony King
03-Jul-96	08:00	2	in jobillo tree	Tony King
03-Jul-96	14:10	4	2 pairs in jobillo tree	Ali Robertson
03-Jul-96	17:15	1	fly west	Fran Ryland
04-Jul-96		1	fly east, south of Cuevas	Fran Ryland
04-Jul-96	18:10	4	2 pairs fly east	Fran Ryland
04-Jul-96	18:15	2	fly east	Fran Ryland
05-Jul-96	18:30	2	fly southeast of Cuevas	Tony King
06-Jul-96	08:30	2	fly south over Cuevas	Ali Robertson
06-Jul-96	18:26	2	fly east, north of Cuevas	Ali Robertson
07-Jul-96	05:30	3	fly west, north of Cuevas	Nicodemus Bol
07-Jul-96	10:05	2	fly east, over Cuevas	Nicodemus Bol
07-Jul-96	18:10	2	fly east, low over north edge of clearing	Ali Robertson
07-Jul-96	18:20	2	fly east, north of Cuevas	Ali Robertson
08-Jul-96	08:40	6	in jobillo tree, two fly off east	Celia Bol
08-Jul-96	13:00	14	7 pairs fly from west, land in jobillo tree in NW corner of clearing	Ali Robertson
08-Jul-96	18:50	4	fly east, north of Cuevas	Nicodemus Bol
09-Jul-96	07:35	2	fly east, north of Cuevas	Nicodemus Bol
09-Jul-96	07:43	2	fly south, west of Cuevas	Nicodemus Bol
09-Jul-96	17:10	2	fly east, north of Cuevas	Ali Robertson
10-Jul-96	07:10	2	fly from NW, land in jobillo tree, fly off east 7:17	Ali Robertson
10-Jul-96	10:04	2	fly from east, land in jobillo tree	Natalie Bol

10-Jul-96	17:00	2	land in jobillo tree; ten minutes later fly to Ceiba just west of Cuevas; 10 minutes later fly back to jobillo; one fly off east, followed 15 minutes later by other one	Nicodemus Bol
12-Jul-96	06:30	2	fly west over Cuevas	Ali Robertson
12-Jul-96	07:50	2	fly west over Cuevas	Ali Robertson
13-Jul-96	08:05	12	flying east, six stop in jobillo, other six continue east; four fly east from jobillo 8:55	Nicodemus Bol
14-Jul-96	06:50	4	fly west, north of Cuevas	Ali Robertson
14-Jul-96	09:00	2	fly east, north of Cuevas	Ali Robertson
14-Jul-96	15:21	2	fly from NW, land in jobillo	Natalie Bol
14-Jul-96	18:00	12	leave jobillo, fly east	Ali Robertson
14-Jul-96	18:15	2	fly south over Cuevas	Ali Robertson
15-Jul-96	07:38	2	fly west	Natalie Bol
15-Jul-96	07:43	2	fly west	Natalie Bol
15-Jul-96	12:00	2	fly southeast over Cuevas	Ali Robertson
15-Jul-96	16:00	4	fly southwest over track at Cuevas	Ali Robertson
16-Jul-96	06:30	4	fly west, north of Cuevas	Ali Robertson
16-Jul-96	08:30	4	fly east, low over southern edge of clearing	Ali Robertson
16-Jul-96	08:50	2	fly east of Cuevas	Celia Bol
16-Jul-96	09:00	22	fly east, north of Cuevas	Celia Bol
17-Jul-96	10:31	12	fly east	Natalie Bol
17-Jul-96	18:30	4	fly east, north of Cuevas	Nicodemus Bol
18-Jul-96	07:00		heard SE of Cuevas until 0900	Ali Robertson
18-Jul-96	13:20	2	in jobillo tree, very vocal; fly off west 14:05	Ali Robertson
20-Jul-96	09:00	2	fly east	Natalie Bol
21-Jul-96	09:10	8	fly east	Natalie Bol
21-Jul-96	09:11	2	fly east	Natalie Bol
21-Jul-96	17:18	2	fly from west, land in jobillo tree	Natalie Bol
22-Jul-96	10:12	3	in jobillo tree, calling; 14:45 fly to Barbajolote on SE of clearing; fly off north 15:15	Natalie Bol
22-Jul-96	18:16	2	fly east	Natalie Bol
23-Jul-96	08:15	34	fly from northwest, 11 (or 12?) stop in jobillo, 23 continue flying east	Ali Robertson
23-Jul-96	08:25	2	fly from northwest, land in jobillo	Ali Robertson
23-Jul-96	08:45	12	fly east	Celia Bol
23-Jul-96	09:48	5	in jobillo tree, cleaning their wings	Natalie Bol
23-Jul-96	15:50	8	6 + 2 fly from west, 6 land in jobillo tree; 15:52 one flew from north and landed in barbajolote tree	Natalie Bol
23-Jul-96	16:08	2	fly southwest from fig tree	Natalie Bol
23-Jul-96	16:45	5	fly from west, land in tree in corner of clearing	Ali Robertson
23-Jul-96	16:55	3	fly from barbajolote to jobillo	Ali Robertson
24-Jul-96	06:50	2	fly west, north of Cuevas	Ali Robertson
24-Jul-96	16:35	2	fly east, low over Cuevas	Ali Robertson
25-Jul-96	05:45	6	3 pairs fly east to north, fast, northeast of Cuevas	Ali Robertson
25-Jul-96	08:30	2	fly east, fast, north of Cuevas	Ali Robertson
25-Jul-96	10:30	15	fly east	Nicodemus Bol
26-Jul-96	17:55	2	fly east over Cuevas	Tony King
27-Jul-96	08:15	2	fly east, north of Cuevas	Tony King
27-Jul-96	17:30	2	fly southeast	Fran Ryland

28-Jul-96	07:40	2	fly from east, fighting in the air, land in little Ceiba behind barbajolote to west of Cuevas	Fran Ryland
28-Jul-96	07:55	2	fly west, north of Cuevas	Nicodemus Bol
28-Jul-96	08:45	2	land in jobillo	Celia Bol
28-Jul-96	09:00	2	fly southwest, high, north of Cuevas	Ali Robertson
29-Jul-96	13:20	2	in tree on north edge of clearing	Fran Ryland
29-Jul-96	13:40	2	fly from west, land in jobillo then fly to little Ceiba just west of clearing then fly off southeast	Tony King
29-Jul-96	13:43	2	fly southeast, after previous pair	Tony King
29-Jul-96	13:45	2	in jobillo, fly off east	Tony King
29-Jul-96	14:30	14	fly from west, land in jobillo and adjacent tree	Ali Robertson
29-Jul-96	16:20	4	fly east, high, north of Cuevas	Tony King
29-Jul-96	am		heard north of Cuevas	Ali Robertson
30-Jul-96	06:50		heard flying west, north of Cuevas	Tony King
30-Jul-96	08:40	2	viewed from tower, fly from near burnt plot between Millionario and Cuevas east for 2km, stop 1.5km north of Cuevas	Tony King
30-Jul-96	08:50	2	viewed from tower, fly from hill 1.5km NW of tower, fly east passing over north edge of Cuevas clearing and in front of hill to east of Cuevas, continue east for at least 1km	Tony King
30-Jul-96	09:25	2	viewed from tower, fly from NW of tower, east along valley, south of Cuevas, and continue ESE	Tony King
30-Jul-96	09:27	7	viewed from tower, (3+2+2) fly from NW of tower, east along valley, over north edge of Cuevas clearing, then go round southside of hill to east of Cuevas and turn north behind it	Tony King
30-Jul-96	10:15	2	viewed from tower, fly south, west of Cuevas, at least as far as hill 4km south of Cuevas	Tony King
30-Jul-96	13:40	2	in jobillo til 15:20	Tony King
31-Jul-96	08:20	2	fly from SE of Cuevas, land in small Ceiba to west of Cuevas	Tony King
31-Jul-96	12:10	2	fly from west; on reaching clearing one turns back and flies west, other circles and flies off north-east	Tony King
31-Jul-96	13:45	2	fly east, over Cuevas	Tony King

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**Appendix 1b: Scarlet macaw observations in the Chiquibul forest, February 1995 to July 1996, excluding those at Las Cuevas Research Station.**

Date	Time	Location	Number	Comments	Observer
21-Feb-95		Monkey Tail	2	sitting on Quamwood tree 4km along track to Monkey Tail branch	Nicodemus Bol
17-Mar-95	14:30	Monkey Tail	14	flying over Raleigh camp heading SE.	Raleigh Int
29-Mar-95		Monkey Tail	8	2-8 macaw regularly seen during second half of March flying either NE or SW over Raleigh camp 08:00 and 17:00	Raleigh Int
20-Apr-95	08:15	San Pastor	1	flying north over CATIE PSP	Darrell Novelo
19-May-95	07:30	Millionario	2	fly southwest, just east of Millionario	Tony King
24-May-95	08:00	New Maria		macaws heard at FPMP plot	Tony King
25-May-95	07:45	New Maria		1 or 2 heard passing over FPMP plot	Tony King
25-May-95	11:00	New Maria		1 or 2 heard passing over FPMP plot	Tony King
25-May-95	12:15	New Maria		1 or 2 heard passing over FPMP plot	Tony King
16-Jun-95	10:00	Monkey Tail	2	flying	Nicodemus Bol
20-Jun-95	09:30	Monkey Tail	10	sitting in Simaruba tree near Monkey Tail ruin	Augustine Howe
24-Jun-95	12:30	New Maria	2	disturbed at New Maria camp, fly off southeast	Tony King
28-Jul-95	09:00	San Pastor	2	fly west to east over FPMP plot	Tony King
16-Sep-95	07:00	Millionario		macaw heard just east of Millionario	Tony King
17-Sep-95	08:45	New Maria	2	heard flying over FPMP plot	Tony King
17-Sep-95	09:00	New Maria	2	heard flying over FPMP plot	Tony King
19-Sep-95	15:45	New Maria		macaw heard over FPMP plot	Tony King
20-Sep-95	08:00	New Maria	4	fly southwest over track between New Maria camp and FPMP plot	Tony King
20-Sep-95	16:30	Christina	6	disturbed from a tree behind big Ceiba with the Oropendula nests; 2 pairs very noisy, followed a little behind by a quiet pair, circle low over the road as we drive past and return where they came from	Tony King
08-Oct-95	17:00	Christina	2	disturbed near Ceiba tree with the Oropendula nests	Tony King
12-Oct-95	12:00	Grano de Oro		macaw heard at FPMP plot	Tony King
09-Jan-96	11:30	New Maria	1	1 or 2 heard over FPMP plot	Tony King
01-Feb-96	15:00	Monkey Tail	3	sitting in tree by river	Neil Bird
03-Feb-96	09:25	Christina	2	disturbed from near (in?) Ceiba tree with the oropendula nests, landed in Ceiba for 1 minute, then flew off behind it (west)	Tony King
14-Feb-96		Christina	4	near Ceiba tree with Oropendula nests	Nicodemus Bol
26-Feb-96	12:40	Monkey Tail	8	4 pairs at Monkey Tail branch river, fly from south along river, one noisy pair the other 3 quiet	Tony King
28-Mar-96	09:15	Raspaculo	30	sighted from helicopter c.5 miles east of junction between Raspaculo and Monkey Tail branches, heading south-east (based on 3 counts, 28 minimum count)	David Sutton
28-Mar-96	14:00	Raspaculo	2	flying east over Cushton Bani camp	David Sutton
29-Mar-96	15:00	Puente Nat	2	flying south-west over Puente Natural	David Sutton
30-Mar-96	15:00	Monkey Tail	2	flying around	Nicodemus Bol

07-Apr-96	18:00	Monkey Tail	6	disturbed at top of hill going down to Monkey Tail branch, flew towards river	Tony King
07-Apr-96	18:15	Monkey Tail		heard upstream of old Raleigh camp	Tony King
08-Apr-96	06:00	Monkey Tail		heard downstream of old Raleigh camp	Tony King
08-Apr-96	09:00	Monkey Tail	2	flying upstream, about 1km downstream of old Raleigh camp	Tony King
08-Apr-96	10:00	Monkey Tail	2	seen about 1.5km downstream of old Raleigh camp	Tony King
08-Apr-96	11:30	Monkey Tail	2	flying upstream, 0.5km downstream of old Raleigh camp	Tony King
11-Apr-96	13:30	San Pastor	2	heard over FPMP plot	Tony King
11-Apr-96	13:50	San Pastor	1	seen flying north-east over FPMP plot	Tony King
12-Apr-96	09:00	San Pastor		1 or 2 heard flying east over FPMP plot	Tony King
20-Apr-96	06:25	San Pastor	2	fly north over San Pastor hill (west of Cuevas)	Tony King
24-Apr-96	10:00	Grano de Oro		heard at FPMP plot	Tony King
09-May-96	08:50	New Maria	2	seen flying at FPMP plot	Tony King
09-May-96	09:10	New Maria	2	seen flying at FPMP plot	Tony King
12-May-96	08:45	San Pastor	5	flying over FPMP plot	Tony King
12-May-96	10:00	San Pastor	1	flying south-east over San Pastor hill, right by observation tower	Tony King
15-May-96	16:20	New Maria	9	disturbed from tree at New Maria camp	Tony King
17-May-96	10:00	New Maria	6	flying 1mile north-east of New Maria camp	Tony King
20-May-96	17:00	San Pastor	4	fly north-west past observation tower on San Pastor hill	Paul Martins
13-Jun-96	08:20	Monkey Tail	2	fly north over Monkey tail track	Ali Robertson
13-Jun-96	08:35	Monkey Tail	10	8 then 2 fly north over Monkey Tail track near Monkey Tail ruins	Ali Robertson
19-Jun-96	08:45	Millionario	2	fly north-east over burnt plot	Ali Robertson
24-Jun-96	17:15	Monkey Tail	4	seen at Monkey Tail ruins	Nicodemus Bol
30-Jun-96	13:30	Christina	2	in Ceiba tree near Christina camp	
02-Jul-96	09:00	Millionario	20	about 20 fly over burnt area between Cuevas & Millionario, fly northwest	Ali Robertson
02-Jul-96	09:30	Millionario	4	fly over burnt plot west to north	Ali Robertson
02-Jul-96	10:15	Millionario	2	fly over burnt plot going northwest	Ali Robertson
11-Jul-96	09:30	Christina	5	flying around big Ceiba tree near Christina camp	Ali Robertson
21-Jul-96	16:00	Monkey Tail	8	by track 1km from Monkey Tail branch	Ali Robertson
23-Jul-96	15:00	Monkey Tail	4	eating cohune nuts by Monkey Tail track at the top of the hill before going down to the river	Nicodemus Bol
23-Jul-96	17:00	Monkey Tail	20	eating cohune nuts from same tree as earlier, 20 in the tree and more vocalising nearby	Nicodemus Bol
29-Jul-96	09:00	Monkey Tail	20	at least 20 in tree near Monkey Tail branch, at junction of tracks o river and hill	Raleigh Int.

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