

# Djibouti Francolin survey

## March 2009



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**Cover photographs** (top to bottom)

Male Djibouti Francolin, Hamboktou, Forêt du Day, March 2009 (© Geoff & Hilary Welch)

Djibouti Francolin habitat, Mabla, March 2009 (© Geoff & Hilary Welch)

Houssein A Rayaleh talking to locals at Mée-Dôho, Mabla, March 2009 (© Geoff & Hilary Welch)

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## Djibouti Francolin survey – March 2009

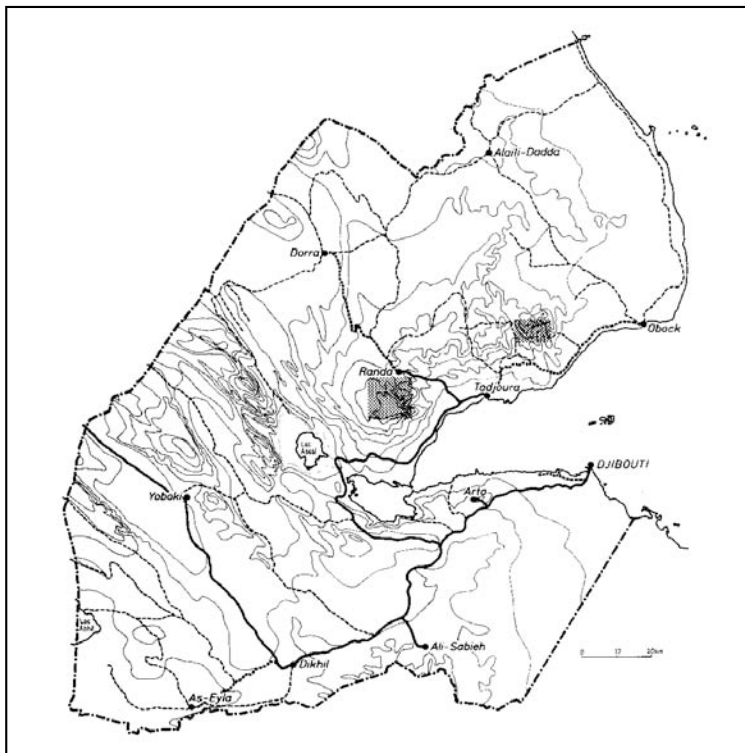
(Note – throughout place names are taken from the Carte de la Côte Française des Somalis au 1/100 000 Territoire Français des Afars et des Issas published by IGN, Paris, c1970).

### Introduction

The Djibouti Francolin *Francolinus ochropectus* is endemic to Djibouti and is known only from two locations on the northern side of the Gulf of Tadjoura - the Forêt du Day in the Goda massif and the Mabla mountains approximately 60km to the east (BirdLife International, 2000) – see figure 1. The species is classified by IUCN as Critically Endangered because a rapid population decline has been observed, thought to have exceeded 90% in the 20 years between 1980-2000 (BirdLife International 2000, Fuller *et al.* 2000). Recent estimates of the Forêt du Day population are 612 to 723 adult birds (Bealey *et al.*, 2006) and 285-705 birds (Fisher *et al.*, in press, 2009).

In the Forêt du Day, the species is assumed to be reliant for at least part of the year on the *Juniperus procera* forest that occurs at the highest elevations. However, the majority of the forest is dead or dying, probably as the result of a change in human social behaviour resulting in intensive grazing of the sensitive forest habitat. The impacts of this cultural change have been exacerbated by a combination of other factors including climate change and timber extraction which have caused a gradual decline in the number of living mature trees and a consequent opening-up of the forest canopy (Bealey *et al.*, 2006).

The francolin population in the Mabla mountains was discovered on 9 December 1983 by A Laurent (*pers com*) who recorded 'tens' of birds 'above Mée-Dôho in the direction of Sismo'. The first published record from the area is Blot (1985) who observed birds in 'several vestigial forests in the Sismo valley' in February 1985 and estimated the population to be 200 birds but no details of how this figure was reached are given. Welch *et al.* (1986) recorded a minimum of 13 birds during 4 days around Goula in November 1985.



**Figure 1 : World distribution of the Djibouti Francolin – the two shaded areas are the forest zones where it occurs; on the left the Goda massif and on the right, Mabla**



At the time of organising the current visit no ornithologists were known to have visited Mabla since November 1985 but it transpired that HAR had visited the area on 30 April and 1 May 2004, walking from Sismo to Mée-Dôho, during which time he recorded six francolins (*pers com*). However, there has never been a systematic survey of the population. Therefore the primary objectives of this visit were (a) to confirm if the species was still present and (b) to carry out systematic surveys to derive an initial population estimate.

## Methods

The Mabla mountains were visited between 22 and 25 March 2009 and the following survey work was carried out – see figure 2 for locations.

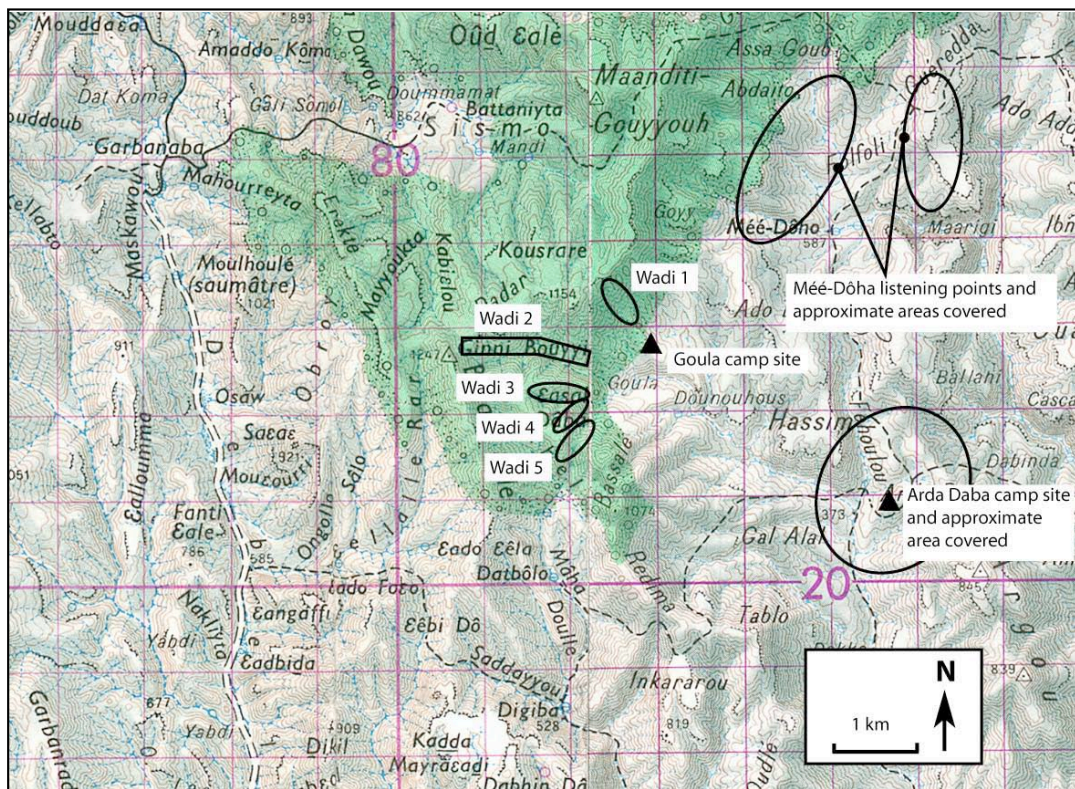
22 March: late afternoon/evening listening for calling birds from two sites north of Mée-Dôho;

23 March: dawn listening for calling birds from north of Mée-Dôho; opportunistic searching for birds around Goula camp site and nearby wadis during late afternoon (wadis 1, 2 and 3);

24 March: systematic transects in wadis 2 and 3 and opportunistic searching for birds in wadis 4 and 5 in early morning; late afternoon/evening listening for calling birds from the Arda Daba camp site;

25 March: dawn listening for calling birds from the Arda Daba camp site.

The transects on 24 March were carried out between 06.24 and 09.16 (GW) and 06.29 and 08.15 (HW) and were approximately 2.0 and 0.76 km in length respectively. Each survey was carried out by a single observer walking slowly along the length of the wadi, following existing paths wherever possible, and recording all francolins seen or heard. For each francolin encounter the location of the observer was noted using a hand held GPS (Garmin 12), together with time, altitude, bearing to the bird, estimated distance to the bird, number of birds and brief notes on habitat – see appendix 2 for precise details of each record.



**Figure 2 : Survey locations and camp sites at Mabla, March 2009**

Base map from - Carte de la Côte Française des Somalis au 1/100 000  
Territoire Français des Afars et des Issas published by IGN, Paris, c1970

Opportunistic searching was carried out by single observers visiting areas of potential habitat. As they had GPSs and compasses, HW and GW recorded precise location details for all birds encountered following the same methodology as used during the transects. HAR lacked such

equipment and therefore the locations of his observations were determined retrospectively from maps of the area and were omitted from the population estimate analysis.

In addition, local residents were asked about the occurrence of francolins and shown an illustration of the species.

## Results

**Afternoon/evening/dawn listening:** no birds seen or heard.

The habitat in both areas was judged to be unsuitable for francolins being too dry and open and consisting predominantly of *Acacia*. Additionally, although reported as being present in the hills immediately east of the Arda Daba camp site, it was considered that the calls reported by local residents were actually those of Eastern Yellow-billed Hornbill *Tockus flavirostris* which are superficially similar to those of Djibouti Francolin.

**Opportunistic searches:** francolins were found in all of the areas visited with –

- i) three calling males in wadi 1;
- ii) a pair and two sub-adults in wadi 2;
- iii) one male, plus possibly an extra bird based on the noise of birds moving through the vegetation, and three unsexed birds in wadi 3;
- iv) one calling male in wadi 4;
- v) three calling males in wadi 5.

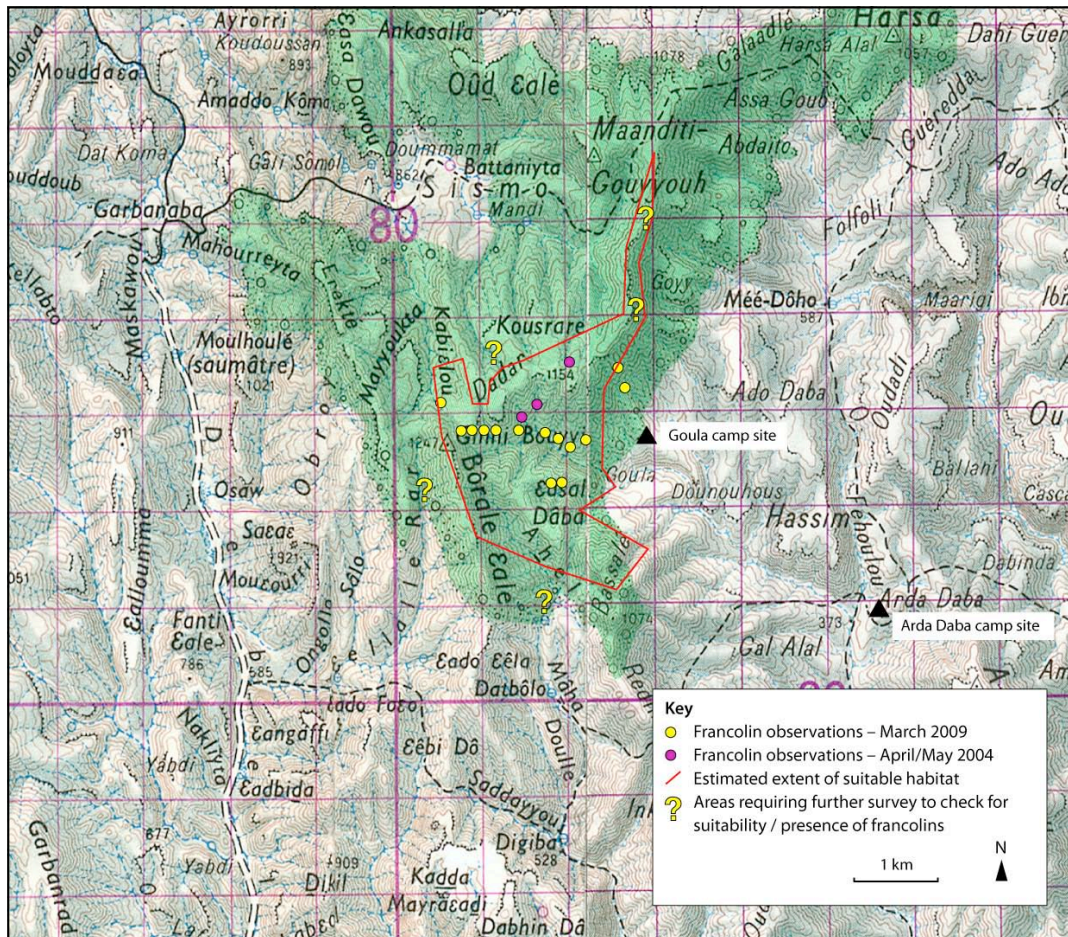
**Transects:**

- i) nine calling males, one female/sub-adult and three unsexed birds heard calling in wadi 2;
- ii) one calling male and one unsexed bird in wadi 3.

Therefore in total a minimum of 24 birds was recorded from the areas visited.

The locations of all encounters, plus those of HAR in 2004, are shown in figure 3 (*overleaf*).





**Figure 3 : Francolin observations on Mbla 2009 and 2004, plus estimated area of suitable habitat**  
 Base map from - Carte de la Côte Française des Somalis au 1/100 000  
 Territoire Français des Afars et des Issas published by IGN, Paris, c1970

## Discussion

### Extent of suitable habitat

Using Google Earth, together with field data, photographs and knowledge of the area and the francolins, the approximate extent of potentially suitable habitat was estimated by examining the area shown in figure 3 using Google Earth's 3D view mode to locate areas with dense patches of vegetation in narrow wadis. The limits of this area were then plotted in Google Maps and the extent calculated using the free online tool Google Planimeter ([www.acme.org/planimeter/](http://www.acme.org/planimeter/)). This gave an extent of 4.323 km<sup>2</sup>.

### Population density

Due to the very small sample size, it is not possible to derive a precise population density for francolins on Mabla but an approximate value was determined based on standard line transect methodology. The data from each transect was transferred to an image taken from Google Earth and the position of each francolin was plotted as accurately as possible based on the bearing and distance information. The approximate centre line of each transect route was also plotted and a 50m distance band added on each side of the route. A 50m band was chosen as it was considered the maximum distance over which the location of birds could be accurately assessed given the terrain and density of vegetation. Birds were audible over several hundred metres. Density was then calculated using the formula –

$$\text{Density} = \frac{n_1 + n_2}{2rl} \log_e \left( \frac{n_1 + n_2}{n_2} \right)$$

where  $r$  = distance of the first band (50m), second band extends from  $r$  to infinity

$n_1$  = number of birds counted within  $r$

$n_2$  = number of birds counted beyond  $r$

$l$  = total length of the transects

Using the data from the two transects

$$\begin{aligned} \text{Density} &= \frac{9 + 6}{2 \times 0.1 \times 2.76} \log_e \left( \frac{9 + 6}{6} \right) \\ &= 24.9 \text{ birds/km}^2 \end{aligned}$$

Research work on the francolin has been carried out in the Forêt du Day since 2004, and data collection has become increasingly systematic. There have been three recent estimates of bird densities as shown below.

Study	Dates	Number of transects	Total transect length (km)	No. of francolin observations	Density estimate, birds/km <sup>2</sup>
Bealey <i>et al</i> (2006)	April-July 2006		40		min 8.75-10.33
Cartwright, S (2007 – MSc thesis)	30 April-20 May 2007	20	19	47 observations (35 audible, 12 visual – maximum flock size 10 birds), minimum of 74 birds	23.54-37.86
Fisher <i>et al</i> , in press (2009)	May and June 2007	26	17.1	47 observations (26 audible, 21 visual – maximum flock size 5 birds); minimum of 70 birds	38-94

The Cartwright and Fisher studies both concentrated on the juniper forest areas of the Garab, Adonta and Barabarré regions of the forest and Hamboka wadi.

Although there is a wide range in the density estimates from the Forêt du Day, this study's provisional estimate of 24.9 birds/km<sup>2</sup> on Mabla fits well with that of Cartwright (2007). However, it should be noted that conditions during the 2009 Mabla survey were different in that it was carried out slightly earlier and immediately following the rains. This meant there was a well developed ground flora which provided excellent cover for the francolins (see plates 1 and 2), reducing the chances of seeing birds, and it was probably the start of the breeding season. Thus the majority of encounters were of calling males (13 of 15 records = 86.7%), not observed birds. Since the Forêt du Day surveys indicate that the majority of encounters involve more than one bird (and thus that recording only calling males probably underestimates the population) it is likely that some birds on Mabla were unrecorded. However, it is also possible that at the start of the breeding season calling males are single birds trying to attract a mate. Overall though it is considered probable that the actual density of birds on Mabla is higher than the estimate suggests.

#### **Population estimate**

Based on a density of 24.9 birds/km<sup>2</sup> and 4.323 km<sup>2</sup> of suitable habitat, the estimated francolin population on Mabla is 108 birds. This would appear to be realistic given that although not all of the area will actually be suitable, an unknown number of birds will have been unrecorded during the transects.

#### **Distribution of francolins on Mabla**

Comparison of photographs from the visit in November 1985 and this survey show that exactly the same areas were visited (see plates 3 and 4), with the largest number of birds recorded in 1985 being from wadi 2, as was also the case in 2009. Even more interesting, but of concern, is that it now seems increasingly likely that the three previously reported locations for francolins on Mabla – above Mée-Dôho (A Laurent), Sismo valley (J Blot) and Goula (Welch *et al*) - all relate to approximately the same area. This means that the distribution of the species on Mabla is far more limited than was previously thought. This conclusion was reached as result of conversation with HAR about his visit in 2004 and our shared experiences in the field.

Following the surveys carried out in the Goula area on this visit, sharing of GPS coordinates and studying maps, HAR described his 2004 visit as starting from Sismo, following the Kabiérou ridge, crossing over the mountains to follow wadi 2 down to Goula, visiting the well (there is only one well in the area) and walking to Mée-Doho. Thus his visit, which he had described as 'covering the Sismo area', actually covered the area Welch *et al* refer to as 'Goula'. Looking at the potential available habitat and considering how close together the three locations of Sismo, Mée-Doho and Goula actually are it is now considered extremely likely that Blot and Laurent also recorded their birds in the same (Goula) area. Efforts are currently underway to learn from Laurent and Blot if they agree with this conclusion.

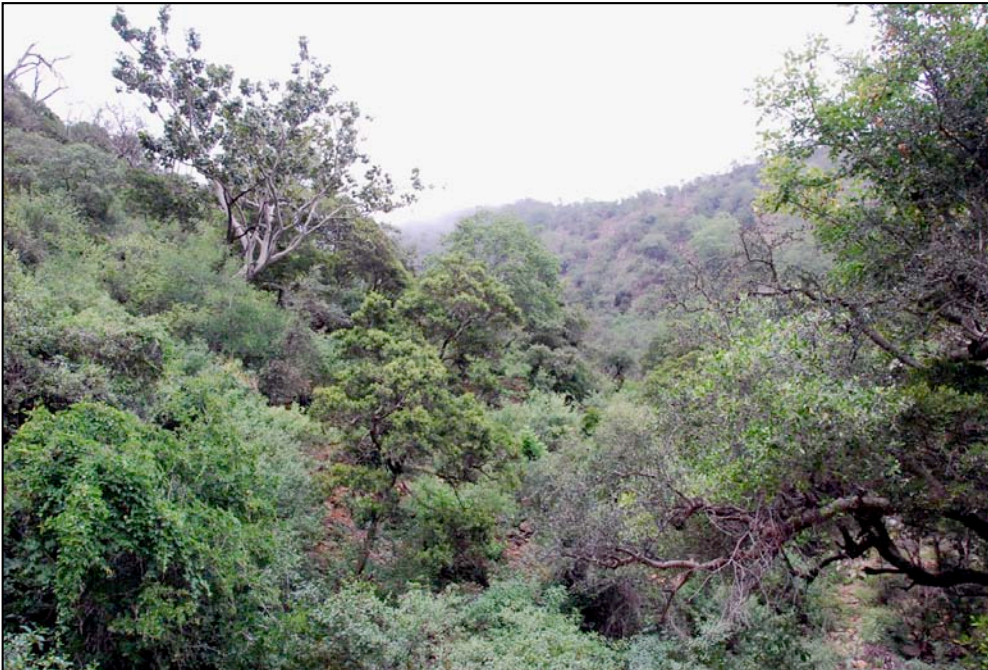
#### **Distribution of habitat on Mabla**

As mentioned earlier, the main patches of suitable francolin habitat are restricted to the narrow wadis running down the sides of the mountains. This can be clearly seen in plates 5 and 6. This feature is particularly prominent in the November 1985 image taken before the rains when there was no herbaceous ground cover.



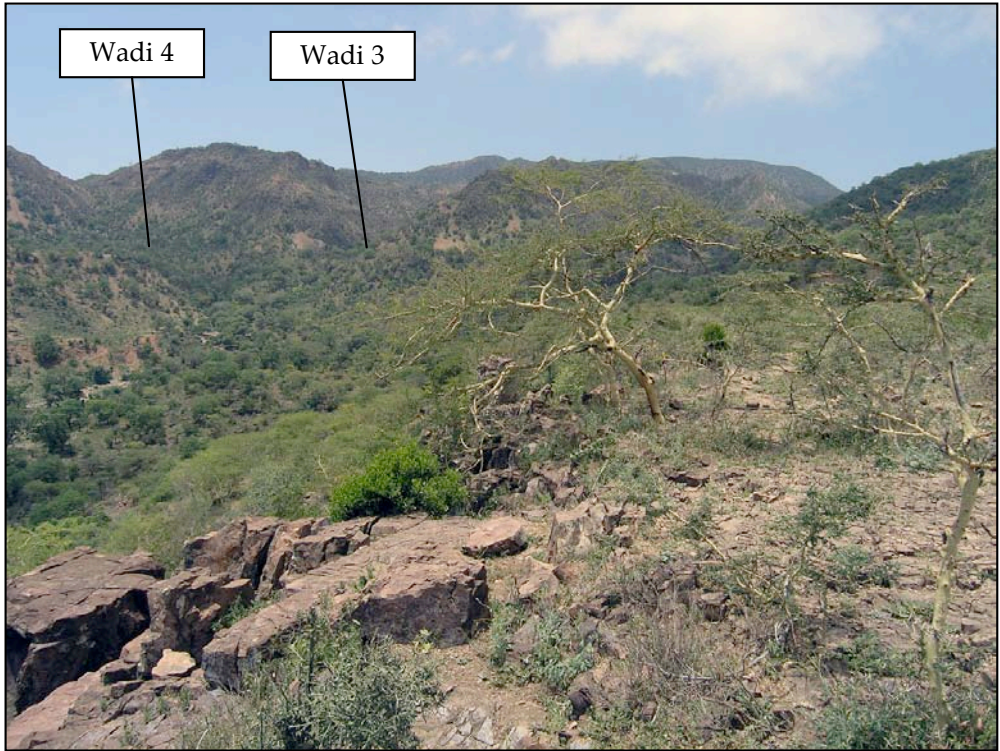


**Plate 1 : Close up of vegetation in wadi 3, 24 March 2009 (© Geoff & Hilary Welch)**

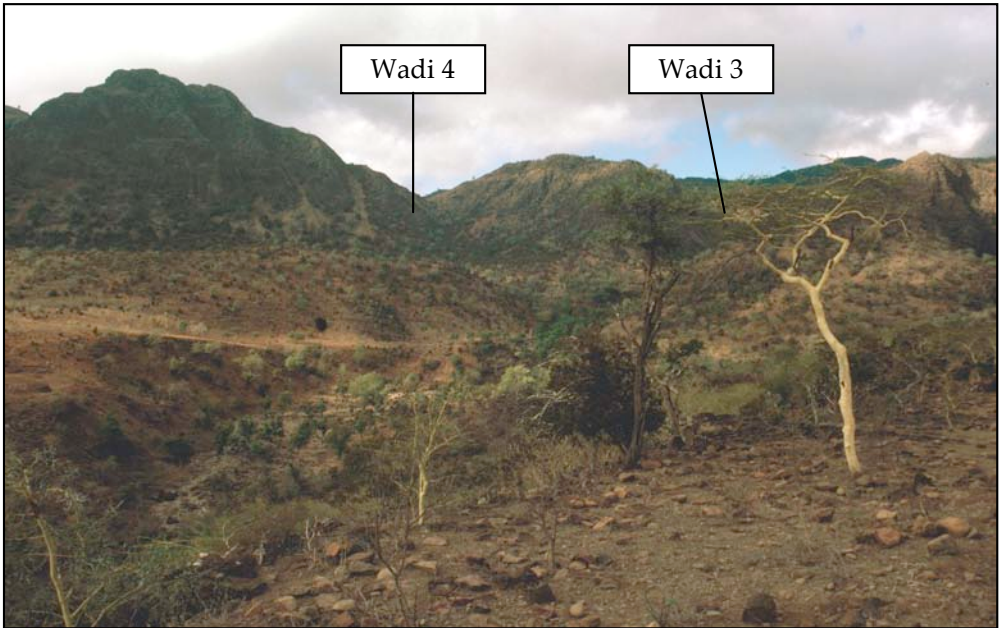


**Plate 2 : Vegetation in wadi 2, 24 March 2009 (© Geoff & Hilary Welch)**





**Plate 3 : Goula view - looking west from camp area to wadis 4 and 3, 23 March 2009**  
(© Geoff & Hilary Welch)



**Plate 4 : Looking west from camp area to wadis 4 and 3, November 1985**  
(© Geoff & Hilary Welch)





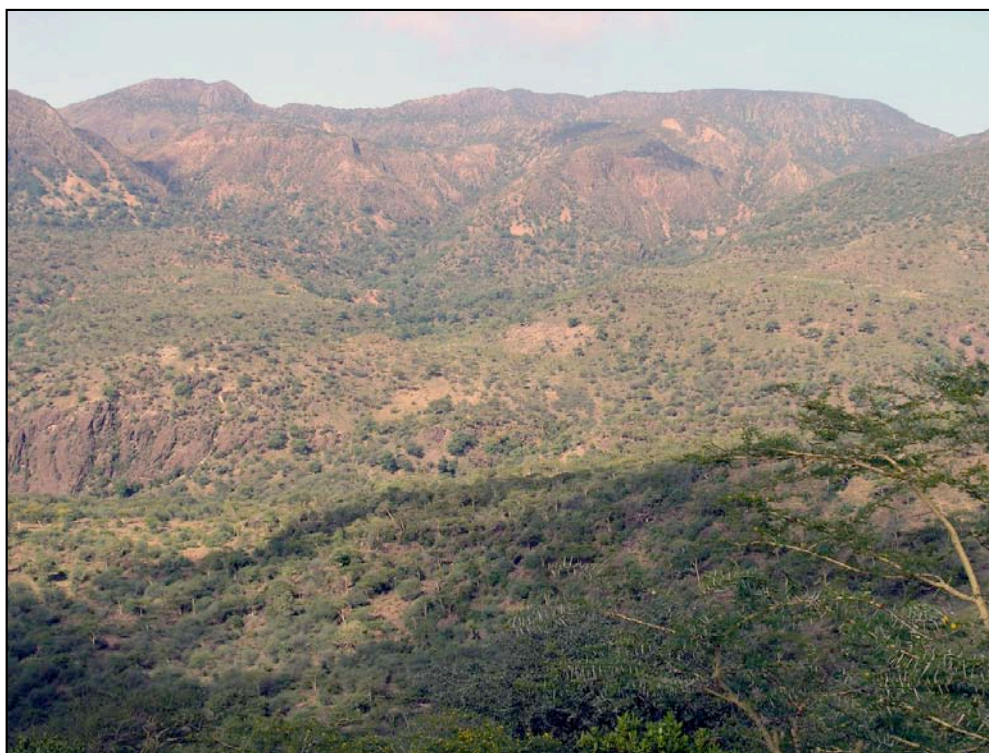
**Plate 5 : Mountainsides above Goula in November 1985, showing the concentration of *Buxus* in the narrow minor wadis (© Geoff & Hilary Welch)**



**Plate 6 : Wadi 3 with *Buxus*, 24 March 2009 (© Geoff & Hilary Welch)**

### Significance of the Mabla observations

In addition to the value of supporting a second population of the francolin – which reduces the risk of extinction should a natural or man made catastrophe befall the main Forêt du Day population – the occurrence of francolins on Mabla is of importance because junipers are effectively absent here. No junipers were seen in 1985 or during fieldwork in 2009 though local residents said that there are a few scattered trees in remote locations. The principle tree and shrub species on Mabla are *Buxus hilderbrandtii*, *Acacia seyal*, *A etbaica*, *Terminalia* sp and *Ficus* sp. In general, *Buxus*, *Terminalia* and *Ficus* are concentrated in the narrow wadis that run down from the mountain peaks while *Acacia* is widespread on the flatter, and more heavily grazed, plateaus – see plate 7 below.



**Plate 7 : Looking west towards Goula - wadi 3 with dense *Buxus* is visible in the centre of the image and extensive, open *Acacia* woodland is visible on the plateaus in the foreground, 23 March 2009 (© Geoff & Hilary Welch)**

As the 2009 visit to Mabla was carried out following the winter rains, it was expected that there would be differences in the extent of vegetation compared to that observed in November 1985 (before the rains). Indeed, the overall extent of potentially suitable francolin habitat in 2009 appeared more extensive and varied than in 1985. Most importantly, no major changes or habitat degradation were noted despite the 24 year period between visits – see plates 8 and 9 (overleaf).





**Plate 8 : Wadi 5 (centre) and view south, November 1985** (© Geoff & Hilary Welch)



**Plate 9 : Wadi 5 (centre) and view south, 23 March 2009** (© Geoff & Hilary Welch)

It is certain that more information on the ecology of the francolin and the importance of *Juniperus procera* is required and the World Pheasant Association (WPA) and Djibouti Nature are planning radio telemetry studies in the Forêt du Day to address these issues. WPA and Djibouti Nature are also already working on protecting and restoring areas of juniper forest in the Forêt du Day through the establishment of tree nurseries. However, whilst protection and restoration of the juniper forest is more than justified for the conservation of the juniper forest ecosystem and securing the ecosystem services it provides for local people, it may not be the highest priority activity required for direct conservation of the francolin.

The occurrence of the francolin on Mabla and observations of francolins at lower altitudes (lowest 457 m at Satabou) outside the main juniper areas in the Forêt du Day show that the species can live in areas where juniper is scarce or absent. This suggests that habitat structure, rather than species composition, may be the most important issue. Fisher *et al*, in press, (2009) and Cartwright (2007) both carried out detailed habitat recording in the Forêt du Day and found that francolin occurrence was positively associated with areas of good tree cover. Further, Fisher *et al* mention that in many areas the junipers had been replaced by *Buxus*. Therefore it would be prudent if future conservation efforts could also focus on maintaining areas of dense *Buxus* throughout the Forêt du Day and on Mabla.

#### **Observations from the Forêt du Day, March 2009**

In addition to visiting Mabla, visits were made to the Forêt du Day – Bankoualé from 17 to 21 March and Dittilou from 25 to 28 March. The Bankoualé visit was primarily to ascertain how visible and vocal francolins were at the time of the visit so as to have an indication of likely detectability of birds on Mabla. However, both visits also provided an opportunity to try to determine some of the outer limits of the francolin's distribution, in contrast to the majority of recent work on the species which has concentrated on the juniper forest regions of the forest. In both areas all observations of francolins were opportunistic apart from in the upper reaches of the Hamboktou wadi on 20 March. Since the visit here was made at a time when francolins were both numerous and vocal it was possible to carry out a short systematic transect survey.

As francolins appear to favour wadis with dense vegetation, Google Earth images were studied to locate potential sites to investigate. Those visited and others considered worthy of investigation are shown on figure 4. Details are given below:

18 March: Ribta – no francolins seen but recorded from this area by Blot (1985).

19 March: Satabou – three birds seen around the gardens towards the head of the main wadi (five birds, presumed to include the above, were flushed by locals walking ahead of us); also one calling male from the wadi immediately to the west.

19 March: Ladato/Imima - a pair, two females and one calling male recorded while walking to camp site.

20 March: Ladato/Imima/Hamboktou – seven calling males audible from camp site at dawn, two of which were assumed to be the same as the previous evening and the others birds seen or heard later in Hamboktou.

20 March: Hamboktou – at least seven males and three females recorded on transect along the wadi and in the abandoned gardens.

21 March: wadi immediately west of Ribta – no birds recorded and wadi impassable after initial few hundred metres due to rocks. Possibly suitable habitat in higher reaches (see 26 March, Dawdayya Rokoli).

21 March: Bankoualé, wadi immediately northeast of tourist camp – no francolins recorded though observed here by HAR in February 2006 and by Henry Ford in 2007. Some patches of suitable habitat but not extensive. It is thought that this is the wadi where Jacques Blot observed c20 birds in March 1984.

25-28 March: Dittilou – up to three males, plus one female, recorded daily from hillside and wadi bordering the tourist camp.

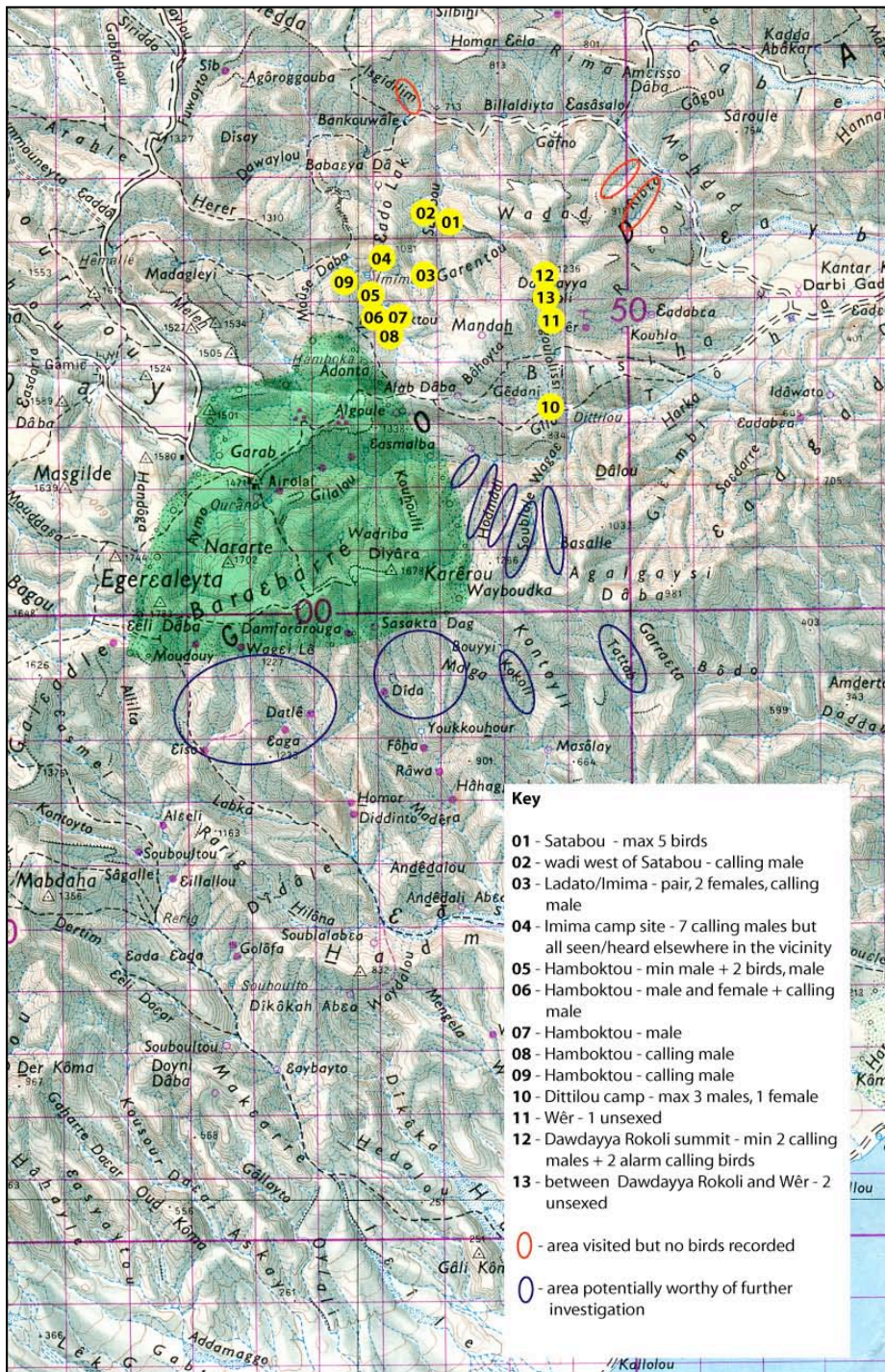
26 March: Wêr – unsexed bird flushed from gardens around the Bankoualé palm stand.

26 March: Dawdayya Rokoli – two males plus two alarm calling birds in the wadi immediately north of the summit. Three unsexed birds flushed from dense vegetation on the south side of the summit later in the day were assumed to include these.

26 March: between Dawdayya Rokoli and Wêr – two unsexed birds flushed from dense *Buxus* on the walk back to Dittilou.



Many of the better vegetated wadis are oriented approximately north-south and all tend to be comparatively narrow. It seems probable that these features combined create a more humid microclimate.



**Figure 4** Francolin observations and areas potentially worthy of investigation, Forêt du Day  
 Base map from - Carte de la Côte Française des Somalis au 1/100 000  
 Territoire Français des Afars et des Issas published by IGN, Paris, c1970

### **Suggested future work**

1. In terms of developing an effective conservation strategy for the francolin, the highest priority is considered to be obtaining a better understanding of the ecology of the species, especially habitat use, and this should be addressed by the planned radio telemetry study in the Forêt du Day. As soon as the practicalities of catching and tracking birds are resolved, a similar study should be carried out on Mabla to see whether there are significant differences in the behaviour of birds at the two sites given the lack of junipers on Mabla.
2. It is also important to obtain more comprehensive population estimates both in the Forêt du Day and on Mabla. Wherever francolins are encountered systematic transects should be carried out so that a total population estimate can be derived, though counts of calling males may give a good initial impression of numbers.
3. Linked to the above, it is also important to determine the extent of occurrence of the species at both sites. In the Forêt du Day additional surveys of all areas of potential habitat outside of the juniper forest area ie the lower altitude vegetated wadis as shown in figure 4 should be carried out to determine the complete distribution of the species. On Mabla a follow up visit should be made to survey all remaining areas of potentially suitable habitat, see figure 3. At both sites, but particularly on Mabla because of the logistical difficulties of accessing the site, surveys would probably be most efficient if carried out by a small team (1-2 persons plus local guide) with several days food and water and camping equipment being carried by camel, as was done by Clive Bealey and Henry Ford in 2004 in the Forêt du Day area. Additionally for Mabla it is suggested that work starts with obtaining an up to date satellite image so that the best areas of habitat can be identified in advance to make the best use of limited survey time and effort. It is also suggested that the Mabla survey is carried out in March as per this year as birds were very vocal.
4. It would be valuable to carry out awareness raising activities for the local communities on Mabla to explain the international importance of the francolin population and, ultimately, to develop a sustainable management strategy for the area to ensure that the habitat remains suitable for francolins.

### **Additional significant ornithological observations**

#### **1) Yellow-tailed Pytilia**

The Yellow-tailed Pytilia *Pytilia (melba) flavicaudata*, a species whose taxonomic status is still undetermined, is currently only known from the Forêt du Day and Mabla, though birds bearing a striking resemblance have been recorded near Kimberley in South Africa (Hand, 1998). During the March 2009 survey, birds were recorded as follows:

##### **Mabla**

A male between the Goula camp site and Mée-Doho on 24 March.

##### **Forêt du Day**

A male at the junction of Wadi Eouâli and the wadi leading to Ribta on 18 March. Possibly a second bird heard calling.

A male in Wadi Eouâli just south of Ardo on 21 March.

A female in the gardens at Dittilou tourist camp on 25 to 27 March.

Two females and one male along the approach road to Dittilou on 27 March.





**Plate 10 : Female Yellow-tailed Pytilia**, Dittilou, 27 March 2009 (© Geoff & Hilary Welch)

The female in the gardens around the Dittilou tourist camp was photographed at dusk on 27 March but because of the poor light the quality of the images is variable. The best image is shown in plate 10 (above).

Additional work to obtain up to date information on the South African birds with the aim of clarifying the taxonomic status of both the Djibouti and South Africa birds will be carried out in the coming months.

## 2) New species for Djibouti

Three new species were recorded during fieldwork, all of which could have been expected based on their distributions elsewhere in the Horn of Africa and neighbouring countries.

**Cinereous Bunting** *Emberiza cineracea*: one of the subspecies *semenowi* was flushed from the side of the main wadi leading to Satabou on 19 March. The species, which is classed as Near Threatened by IUCN/BirdLife International, is an uncommon to rare winter visitor to Ethiopia and Eritrea, the main wintering areas being in eastern Sudan, Yemen and southwest Saudi Arabia.

**Marsh Warbler** *Acrocephalus palustris*: one was seen briefly in undergrowth bordering the road leading to the Dittilou tourist camp on 27 March. Although all of the unstreaked *Acrocephalus* warblers are difficult to separate the generally dull olive brown plumage, noticeably pale pink legs and dark centred tertials suggest this species. Frequent to common autumn/early winter migrant to all of the region with a few spring records from Eritrea.

**Red-rumped Swallow** *Cecropis daurica*: two were seen flying over the Dittilou tourist camp at lunch time on 27 March plus a flock of c20, possibly including the initial birds, in the same area late afternoon. At least 3, possibly 4, subspecies occur in the region, both as winter visitors and residents.

Prior to fieldwork a review of the Djibouti bird list (in Welch & Welch 1999) was carried out while providing information for the new Helm Field Guide to the Birds of the Horn of Africa. As a result the following species were removed from the list as their positive occurrence in Djibouti could no longer be confirmed – Subalpine Warbler *Sylvia cantillans*, Arabian Babbler *Turdoides squamiceps* and House Sparrow *Passer domesticus* – and two new species, recorded since 1999 were added – Northern Bald Ibis *Geronticus erimita* (December 2007) and Great Knot *Calidris tenuirostris* (February 2001). These, together with the three species detailed above, take the Djibouti bird list to 362 confirmed species. (It seems likely that House Sparrow too may be returned to the list as HAR reported seeing them regularly near his office in Djibouti City, alongside Somali Sparrows.)

### 3) Nationally scarce species and/or species restricted to Djibouti in the Horn of Africa

**Bonelli's Eagle** *Hieraetus fasciatus* – recorded on nine dates between 17 and 27 March, with a daily maximum of four on 17 March when driving from Djibouti City to Bankoulé. The majority of records were of pairs of territory holding birds and nests were found above Satabou on 19 March, and on the cliffs between the two Little Swift colonies in Wadi Ewouâli on 21 March.

**Great Spotted Cuckoo** *Clamator glandarius* – one near Méeé-Doho on 23 March. Second record.

**Blue-cheeked Bee-eater** *Merops persicus* – at least 6 birds displaying and nest prospecting in sand cliffs on the western side of Djibouti City on 28 March.

**Orphean Warbler** *Sylvia hortensis* – singles in Wadi Eouâli south of Ardo on 18 and 21 March. Second and third records.

An annotated list covering all species seen during the visit is provided in Appendix 1.

## References

- Bealey, C, Ford, H and Rayaleh, H (2006) **Djibouti Francolin Conservation Project Second Phase** internal report to the World Pheasant Association
- Bealey C, Ford, H and Rayaleh H A (2004) **Djibouti Francolin Conservation Project Report on First Phase 2004** internal report to the World Pheasant Association
- BirdLife International (2000) **Threatened Birds of the World** Barcelona and Cambridge, UK, Lynx Edicions and BirdLife International
- Blot, J (1985) Contribution à la connaissance de la biologie de *Francolinus ochropectus* **Alauda** 53 (4): 244-256
- Cartwright, S (2007) **Habitat Association of the Critically Endangered Djibouti Francolin *Francolinus ochropectus* in the Forêt du Day, Djibouti** MSc Thesis, University College, London
- Fisher, Z.S.Y, Cartwright, S, Bealey, C, Rayaleh, H, McGowan, P and Milner-Gulland, E.J (2009) in press The Status of the Djibouti Francolin in the Forêt du Day, Djibouti
- Fuller, R.A, Carroll, J.P and McGowan, P.J.K (2000) **Partridges, quails, francolins, snowcocks, guineafowl and turkeys: status survey and conservation action plans** IUCN, Gland, Switzerland and Cambridge, UK, and World Pheasant Association, Reading, UK
- Hand, K (1998) New species of Melba Finch discovered in South Africa. **Avizandum**, May. Natal, South Africa
- Redman, N, Stevenson, T and Fanshawe, J (2009) **Birds of the Horn of Africa** Helm, London
- Welch, H and Welch, G (1999) **A report on the birds of Djibouti and the Bankoulé Palm *Livistona carinensis* Biodiversity Report no 4** Ministère de l'Environnement, du Tourisme et de l'Artisanat Direction de l'Environnement, Djibouti

Welch, G, Welch, H, Coghlan, S and Denton, M (1986) **Djibouti II – Autumn 1985**  
privately published

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## Appendix 1

### Annotated species list: 16 to 28 March 2009

Taxonomy follows that of Redman, Stevenson and Fanshawe (2009).

**Little Grebe** *Tachybaptis ruficollis* – two on the pools west of Djibouti City on 28 March.

**Cattle Egret** *Bubulcus ibis* – one on the pools west of Djibouti City on 28 March.

**Western Reef Heron** *Egretta gularis* – singles on the coast around Tadjoura on 17 and 25 March and four on the pools west of Djibouti City on 28 March.

**Black Heron** *Egretta ardesiaca* – four on the pools west of Djibouti City on 28 March.

**Grey Heron** *Ardea cinerea* – singles on the coast west of Tadjoura on 17 March and on the pools west of Djibouti City on 28 March.

**Abdim's Stork** *Ciconia abdimii* – a pair nesting in a roadside tree on the eastern side of Djibouti City on 17 March.

**Sacred Ibis** *Threskiornis aethiopicus* – at least 20 flying over Djibouti City on 16 March.

**European Spoonbill** *Platalea leucorodia* – one on the coast just west of Tadjoura on 17 March.

**Egyptian Goose** *Alopochon aegypticus* – two on the pools west of Djibouti City on 28 March.

**Osprey** *Pandion haliaetus* – one on the coast around Tadjoura on 17 and 22 March.

**Egyptian Vulture** *Neophron percnopterus* – recorded daily with the exception of 16 March, with a maximum of 24+ on 25 March when driving from Dittilou to Djibouti City. One nest observed on cliffs in Wadi Eouâli on 18 March.

**Ruppell's Vulture** *Gyps ruepellii* – one soaring over Dittilou on 27 March.

**Short-toed Snake-Eagle** *Circaetus gallicus* – recorded irregularly in the Forêt du Day and on Mabla with a daily maximum of 3 on 22 March.

**Western Marsh Harrier** *Circus aeruginosus* – one while driving from Djibouti City to Bankoualé on 17 March.

**Montagu's Harrier** *Circus pygargus* – a ringtail over Dawdayya Rokoli on 26 March.

**Pallid Harrier** *Circus macrourus* – a male just west of Djibouti City on 28 March.

Harrier sp – an unidentified ringtail flying over the coastal plain near Tadjoura on 25 March.

**Shikra** *Accipiter badius* – singles over Bankoualé on 21 March and around Dittilou on 26 and 27 March.

**Eurasian Sparrowhawk** *Accipiter nisus* – singles over Méeé-Doho on 22 and 23 March and two seen while driving from Dittilou to Djibouti City on 28 March.

**Common (Steppe) Buzzard** *Buteo buteo vulpinus* – two over Goula on 23 and 24 March, presumed to be the same birds on both dates.

**Steppe Eagle** *Aquila nipalensis* – singles over Wadi Eouâli on 21 March and over Dittilou on 26 and 27 March.

**Bonelli's Eagle** *Hieraetus fasciatus* – recorded on nine dates between 17 and 27 March, with a daily maximum of four on 17 March when driving from Djibouti City to Bankoualé.

**Booted Eagle** *Hieraetus pennatus* – one over Wadi Eouâli on 21 March and two singles seen while driving from Bankoualé to Méeé-Doho on 22 March

**Verreaux's Eagle** *Aquila verreauxii* – pairs around the waterfall south of Méeé-Doho on 22 March and around Dittilou on 26 and 27 March. At both sites birds were being mobbed by Bonelli's Eagles.

**Common Kestrel** *Falco tinnunculus* – singles seen irregularly in the Forêt du Day and on Mabla throughout.



**Lanner Falcon** *Falco biarmicus* – one above Méeé-Doho on 22 March, two over Goula on 24 March and one near Tadjoura on 28 March.

**Djibouti Francolin** *Francolinus ochropectus* – a minimum of 24 birds was recorded on Mabla between 22 and 25 March and 32 birds in the Goda massif between 18 and 21 and 25 and 28 March.

**Common Quail** *Coturnix coturnix* – flushed occasionally from tall vegetation in both the Forêt du Day and on Mabla, with a daily maximum of 7 in the vicinity of Dittilou on 26 March. Almost certainly under recorded.

**Three-banded Plover** *Charadrius tricollaris* – two on the pools west of Djibouti City on 28 March.

**Common Ringed Plover** *Charadrius hiaticula* – six on the coast around Tadjoura on 25 March and one on the pools west of Djibouti City on 28 March.

**Kentish Plover** *Charadrius alexandrinus* – up to four on the coast around Tadjoura on 22 and 25 March and one on the pools to the west of Djibouti City on 28 March.

**Spur-winged Plover** *Vanellus spinosus* – four on the pools west of Djibouti City on 28 March.

**Grey Plover** *Pluvialis squatarola* – singles on the shore just west of Tadjoura on 17 March and in the small 'harbour' at the head of the Gulf of Tadjoura on 28 March.

**Common Sandpiper** *Actitis hypoleucos* – up to 3 on the coast around Tadjoura on 17, 22 and 25 March, and 6 on the pools to the west of Djibouti City on 28 March.

**Wood Sandpiper** *Tringa glareola* – four on the pools west of Djibouti City on 28 March.

**Green Sandpiper** *Tringa ochropus* – one on the pools west of Djibouti City on 28 March.

**Common Greenshank** *Tringa nebularia* – one on the pools west of Djibouti City on 28 March.

**Common Redshank** *Tringa totanus* – three on the pools west of Djibouti City on 28 March.

**Little Stint** *Calidris minuta* – three on the pools west of Djibouti City on 28 March.

**Temminck's Stint** *Calidris temminckii* – three on the pools west of Djibouti City on 28 March.

**Whimbrel** *Numenius phaeopus* – singles on the coast at Tadjoura on 22 March and in the small 'harbour' at the head of the Gulf of Tadjoura on 28 March.

**Heuglin's Gull** *Larus (fuscus) heuglini* – present at Tadjoura on 22 March but not counted.

**Caspian Gull** *Larus cachinnans* - present at Tadjoura on 22 March but not counted.

**Sooty Gull** *Larus hemprichii* – present at Tadjoura on 22 March but not counted.

**White-eyed Gull** *Larus leucoptthalmus* – present at Tadjoura on 22 March but not counted.

**Lesser Crested Tern** *Sterna bengalensis* – one roosting with gulls at Tadjoura on 22 March.

**Greater Crested Tern** *Sterna bergii* – one just offshore west of Tadjoura on 17 March.

**Gull-billed Tern** *Sterna nilotica* – one over the pools west of Djibouti City on 28 March.

**Whiskered Tern** *Chlidonias hybrida* – one probable fishing in Djibouti City harbour on 17 March.

**Chestnut-bellied Sandgrouse** *Pterocles exustus* – one flock of 12 to 15 birds flying beside the road just east of Tadjoura on 22 March.

**Lichtenstein's Sandgrouse** *Pterocles lichtensteinii* – a pair beside the road near the Tadjoura water bottling plant on 25 March.

**Bruce's Green Pigeon** *Treron waalia* – only recorded in the Forêt du Day and on Mabla, with a maximum of 21 between Bankoualé and Ribta on 18 March.

**Speckled Pigeon** *Columba guinea* – common around Ouê'a, south of Arta, feeding on spilled grain with 100+ on 17 March and 181 on 28 March. Also up to 5 in Tadjoura.

**Rock Dove (Feral Pigeon)** *Columba livia* – common in Djibouti City (maximum 70+ on 17 March) with smaller numbers (less than 10) in Tadjoura on 22 and 25 March.

**Namaqua Dove** *Oena capensis* – noted from most areas with large bushes but nowhere common, with a maximum of 36 when driving from Bankoualé to Djibouti City on 28 March.

**African Collared Dove** *Streptopelia roseogrisea* – small numbers around Oué'a, south of Arta, and Tadjoura but with 116 counted when driving from Bankoualé to Djibouti City on 28 March.

**Laughing Dove** *Streptopelia senegalensis* – as Namaqua Dove but more numerous, with a maximum of 37 when driving from Bankoualé to Djibouti City on 28 March.

**Rose-ringed Parakeet** *Psittacula krameri* – three on the western outskirts of Djibouti City on 17 March.

**Great Spotted Cuckoo** *Clamator glandarius* – one near Méeé-Doho on 23 March. Second record for Djibouti.

**African Scops Owl** *Otus senegalensis* – only recorded in the Forêt du Day and on Mabla, with a maximum of 3 in the vicinity of Dittilou on 26 March including one flushed from a daytime roost in a *Buxus* tree just below the summit of Dawdayya Rokoli.

**Little Owl** *Athene noctua* – one heard calling from the Goula camp site on 23 March.

**Greyish Eagle-Owl** *Bubo cinerascens* – singles heard calling near Ladato on 19 March, near Méeé-Doho on 22 March and around Goula on 23 March.

**Note** – in previous Djibouti bird lists this species was referred to as African Eagle-Owl *Bubo africanus* which is now treated as a separate species and is extra-limital to Djibouti.

**Little Swift** *Apus affinis* – common in the Forêt du Day but less so on Mabla and only seen occasionally elsewhere eg the car park overlooking Ghoubet at the head of the Gulf of Tadjoura. Two breeding colonies found in Wadi Eouâli south of Ardo on 18 March, one with at least 30 nests, the other with at least 60 nests.

**Blue-naped Mousebird** *Urocolius macrourus* – six in *Acacia* scrub just west of Tadjoura on 17 March.

**European Bee-eater** *Merops apiaster* – small flocks observed migrating over Mabla, with a maximum of 56 on 24 March.

**Blue-cheeked Bee-eater** *Merops persicus* – at least 6 birds displaying and nest prospecting in sand cliffs on the western side of Djibouti City on 28 March.

**Eurasian Hoopoe** *Upupa epops* – seen occasionally in the Forêt du Day and on Mabla with a daily maximum of 4 on 23 March.

**Eastern Yellow-billed Hornbill** *Tockus flavirostris* – only recorded in the Forêt du Day and on Mabla, with a daily maximum of 3 around Bankoualé on 21 March.

**Hemprich's Hornbill** *Tockus hemprichii* – as Eastern Yellow-billed Hornbill, with a daily maximum of 5 between Bankoualé and Ladato on 20 March.

**Black-throated Barbet** *Tricholaema melanocephala* – only observed in the Forêt du Day in very small numbers but possibly overlooked.

**Yellow-breasted Barbet** *Trachyphonus margaritatus* – only recorded in the Forêt du Day and on Mabla, with a daily maximum of 16 between Bankoualé and Ribta on 18 March.

**Nubian Woodpecker** *Campethera nubica* – a male near Goula on 23 March and singles, unsexed, around Dittilou on 26 and 27 March.

**Cardinal Woodpecker** *Dendropicos abyssinicus* – only recorded in the Forêt du Day and on Mabla, with a daily maximum of 2 around Goula on 23 March.

**Greater Hoopoe-Lark** *Alaemon alaudipes* – one on the roadside just east of Tadjoura on 22 March.

**Desert Lark** *Ammomanes deserti* – scattered birds and occasional pairs observed on roadsides between Djibouti City and Mabla, with a maximum of 10 between Mabla and the Forêt du Day on 25 March.

**Crested Lark** *Galerida cristata* – singles on the roadside on the western outskirts of Djibouti City on 17 and 28 March.

**Black-crowned Sparrow-Lark** *Eremopterix nigriceps* – as Desert Lark, with a maximum of 9 on 28 March. Displaying birds noted on 17 and 25 March.

**Rock Martin** *Ptyonoprogne fuligula* – small numbers seen around most areas of habitation or cliffs with a daily maximum of 16 when driving from Dittilou to Djibouti City on 28 March. A nest with young was found in Wadi Eouâli on 21 March.

**Red-rumped Swallow** *Cecropis daurica* - two seen flying over the Dittilou tourist camp at lunch time on 27 March plus a flock of c20, possibly including the initial birds, in the same area late afternoon. First record for Djibouti.

**Barn Swallow** *Hirundo rustica* – scattered birds observed migrating throughout the period, with a maximum of 17 feeding over gardens at Sagallou on 28 March.

**Yellow Wagtail** *Motacilla flava* – small numbers recorded flying over on migration throughout, with a maximum of 58 when driving from Dittilou to Djibouti City on 28 March. Races recorded were *feldegg* and *beema*.

**Grey Wagtail** *Motacilla cinerea* – one in Wadi Eouâli near Ardo on 19 March.

**Tawny Pipit** *Anthus campestris* – three flying over the Goula camp site calling on 24 March.

**Long-billed Pipit** *Anthus similis* – at least one between Tadjoura and the Bankoualé road junction on 17 March and one near Ribta on 18 March. Probably under recorded.

**Tree Pipit** *Anthus trivialis* - four around Goula on 24 March and one at Dittilou on 27 March.

**Common Bulbul** *Pycnonotus barbatus* – common in all areas with vegetation, with a daily maximum of 21 around Goula on 23 March. Fledged young were noted on 17 and 18 March.

**White-throated Robin** *Irania gutturalis* – two in the wadi above Bankoualé on 20 March.

**Common Redstart** *Phoenicurus phoenicurus* – only observed in the Forêt du Day with singles on 18, 19, 22 and 27 March.

**Rufous Scrub Robin** *Cercotrichas galactotes* – recorded from most areas with dense vegetation, with a daily maximum of 7 when driving from Dittilou to Djibouti City on 28 March. Singing males were establishing breeding territories in both the Forêt du Day and on Mabla.

**Black Scrub Robin** *Cercotrichas podobe* – two in *Acacia* scrub west of Tadjoura on 17 March.

**Whinchat** *Saxicola rubetra* – a female near the Goula camp site on 23 March.

**Isabelline Wheatear** *Oenanthe isabellina* – singles recorded beside the road on 17, 22 and 25 March. Probably under recorded.

**Pied Wheatear** *Oenanthe pleschanka* – singles between Tadjoura and Mée-Doho on 22 and 25 March (the latter being a male of the race *vittata*), a female at Goula on 23 March and 4 between Dittilou and Djibouti City on 28 March.

**White-crowned Black Wheatear** *Oenanthe leucopyga* – only recorded in the basalt area at the head of the Gulf of Tadjoura, with 3 on 17 March and 8 on 28 March. A singing male was noted on 17 March.

**Blackstart** *Cercomela melanura* – relatively common in rocky areas with trees and scrub. Daily maximum of 9 recorded while driving between the Forêt du Day and Mabla on 22 and 25 March. A pair carrying nest material was observed in Wadi Eouâli on 21 March and a displaying pair in wadi 2 on Mabla on 24 March.

**Common Rock Thrush** *Monticola saxatilis* – a male between Dittilou and the Tadjoura road on 28 March.

**Marsh Warbler** *Acrocephalus palustris* - one seen briefly in undergrowth bordering the road leading to the Dittilou tourist camp on 27 March. First record for Djibouti.



**Eastern Olivaceous Warbler** *Hippolais pallida* – scarce in well vegetated areas around Djibouti City and in the Forêt du Day and on Mabla.

**Grey-backed Camaroptera** *Camaroptera brachyura* – only recorded in the Forêt du Day and on Mabla, with a daily maximum of 12+ around Goula on 24 March. An occupied nest was found in a small *Ficus* in Wadi Eouâli on 19 March.

**Northern Crombec** *Sylvietta brachyura* - only recorded in the Forêt du Day and on Mabla, with a daily maximum of 5 in the vicinity of Dittilou on 27 March. An occupied nest was found in an *Acacia* along the approach road to Dittilou tourist camp on 27 March.

**Willow Warbler** *Phylloscopus trochilus* – singles around Goula on 23 and 24 March and at Dittilou on 26 March. Probably under recorded.

**Common Chiffchaff** *Phylloscopus collybita* – relatively common in both the Forêt du Day and on Mabla, with a daily maximum of 10 between Ladato and Bankoualé on 19 March. Scattered records from other areas with vegetation.

**Brown Woodland Warbler** *Phylloscopus umbrovirens* - only recorded in the Forêt du Day and on Mabla, with a daily maximum of 5 between Ladato and Bankoualé on 19 March.

**Barred Warbler** *Sylvia nisoria* – two in scrub at the car park overlooking the head of the Gulf of Tadjoura on 28 March.

**Lesser Whitethroat** *Sylvia curruca* – three in Wadi Eouâli near Ardo on 18 March. Probably under recorded.

**Orphean Warbler** *Sylvia hortensis* - singles in Wadi Eouâli south of Ardo on 18 and 21 March. Second and third records for Djibouti.

**Arabian Warbler** *Sylvia leucomelaena* – one in scrub near the junction of the Méeé-Doho to Tadjoura road on 25 March. Probably under recorded.

**Common Whitethroat** *Sylvia communis* – two around Dittilou on 27 March and one in scrub at the car park overlooking the head of the Gulf of Tadjoura on 28 March.

**Ménétries's Warbler** *Sylvia mystacea* – singles in Wadi Eouâli near Ardo on 18 March and at Goula on 23 March. Probably under recorded.

**Blackcap** *Sylvia atricapilla* – relatively common in both the Forêt du Day and on Mabla, with a daily maximum of 10 around Goula on 24 March.

**Graceful Prinea** *Prinea gracilis* – only recorded around Tadjoura, maximum of 4+ on 17 March.

**Red-fronted Warbler** *Urorhipis rufifrons* – scarce in rocky areas with some vegetation, with a maximum of 10 between Dittilou and Djibouti City on 28 March.

**African Paradise Flycatcher** *Terpsiphone viridis* – only recorded in the Forêt du Day, with a daily maximum of 4 between Ladato and Bankoualé on 19 March.

**Grey-headed Batis** *Batis orientalis* - relatively common in both the Forêt du Day and on Mabla, with a daily maximum of 16 around Goula on 24 March.

**Abyssinian White-eye** *Zosterops abyssinicus* – only observed in the Forêt du Day and on Mabla with a daily maximum of 19 between Ladato and Bankoualé on 20 March.

**Shining Sunbird** *Cinnyris habessinicus* – relatively common in most well vegetated areas, with a daily maximum of 11 between Ladato and Bankoualé on 20 March and in the vicinity of Dittilou on 26 March. An occupied nest was found in an *Acacia* at the mouth of Wadi Hamboktou on 20 March.

**Nile Valley Sunbird** *Hedydipna metallica* – as Shining Sunbird. Daily maximum of 14 around Goula on 24 March and driving from Dittilou to Djibouti City on 28 March.

**Southern Grey Shrike** *Lanius meridionalis* – recorded from most areas visited, with a daily maximum of 11 between Bankoualé and Méeé-Doho on 22 March.

**Isabelline Shrike** *Lanius isabellinus* – occasional migrants noted from most areas visited, with a daily maximum of 4 between Bankoualé and Méeé-Doho on 22 March. The majority of records were of *phoenicuroides*-type birds but a male *isabellinus* was present near Dittilou on 28 March.

**Ethiopian Boubou** *Laniarius aethiopicus* – relatively common in the Forêt du Day and on Mabla, usually dueting pairs, with a maximum of 10 around Goula on 24 March.

**Note** – in previous Djibouti bird lists this species was referred to as Tropical Boubou.

**Black-crowned Tchagra** *Tchagra senegalus* – common around Goula with 3 on 23 March and 5 on 24 March, and one in the vicinity of Dittilou on 26 March. Singing males were establishing breeding territories at both sites.

**Rosy-patched Shrike** *Rhodophoneus cruentus* – occasional singles or more often pairs recorded from roadside vegetation and major wadis, with a maximum of 4 on 25 and 28 March. A nest was found in an isolated tree on the edge of Wadi Eouâli at the entrance to the wadi leading to Ribta on 18 March.

**Fork-tailed Drongo** *Dicurus adsimilis* – only recorded in the Forêt du Day and on Mabla, with a daily maximum of 5 in the vicinity of Dittilou on 26 March.

**House Crow** *Corvus splendens* – common around Djibouti City and Tadjoura, with a minimum of 100 noted at the former on 16 March. Numbers are increasing since systematic eradication measures ceased in 1999.

**Fan-tailed Raven** *Corvus rhipidurus* – only recorded on the northern side of the Gulf of Tadjoura, with a daily maximum of 7 between Méeé-Doho and Dittilou on 25 March. An occupied nest was found in Wadi Eouâli close to Ardo on 19 March.

**Red-billed Oxpecker** *Buphagus erythrorhynchus* – pairs observed occasionally around livestock in both the Forêt du Day and on Mabla.

**Somali Starling** *Onycognathus blythii* – common in the Forêt du Day and on Mabla, with a daily maximum of 45 between Bankoualé and Ribta in 19 March. Birds carrying nesting material were observed on 18 March, entering a presumed nest site in a building in Ardo on 21 March and collecting food around Arda Daba on Mabla on 25 March, and a nest with young was found above one of the Little Swift colonies in Wadi Eouâli on 21 March.

**Violet-backed Starling** *Cinnyricinclus leucogaster* – recorded regularly from most areas visited, often in small flocks, with a maximum of 24 between Bankoualé and Ribta on 18 March.

**Somali Sparrow** *Passer castanopterus* – only recorded around Djibouti City with 2 on 17 March and 8 on 28 March.

**Ruppell's Weaver** *Ploceus galbula* – common in most well vegetated areas, with a daily maximum of 70+ around Méeé-Doho and Goula on 23 March.

**Yellow-tailed Pytilia** *Pytilia (melba) flavicaudata* – a male at the junction of Wadi Eouâli and the wadi leading to Ribta on 18 March, with possibly a second bird also present; a male in Wadi Eouâli just south of Ardo on 21 March; a male between the Goula camp site and Méeé-Doho on 24 March; a female in the gardens at Dittilou tourist camp on 25 to 27 March and two females and one male along the approach road to Dittilou on 27 March.

**Red-billed Firefinch** *Lagonosticta senegala* – at least two around Ambouli International Airport on 16 March and one on the western outskirts of Djibouti City on 28 March.

**African Silverbill** *Euodice cantans* – six between Bankoualé and Ribta on 18 March, one at Bankoualé on 20 March, two in the wadi leading to Méeé-Doho on 22 March and 3 on the western outskirts of Djibouti City on 28 March.

**Reichenow's Seedeater** *Serinus reichenowi* – only recorded in the Forêt du Day and on Mabla, with a daily maximum of 3 in the vicinity of Dittilou on 26 March.

**Note** – in previous Djibouti bird lists this species was referred to as Yellow-rumped Seedeater *Serinus atrogularis*.

**Cinereous Bunting** *Emberiza cineracea* – one of the subspecies *semenowi* was flushed from the side of the main wadi leading to Satabou on 19 March. First record for Djibouti.

**Striolated Bunting** *Emberiza striolata* – up to 11 recorded along the roadside between Tadjoura and Méeé-Doho on 22 and 25 March, and one near Arta on 28 March.

**Note** – in previous Djibouti bird lists this species was referred to as House Bunting.

## Appendix 2

### Djibouti Francolin transect records on Mabla and the Forêt du Day – March 2009

Observer	Date	Location name	Transect no	Start coordinates	Finish coordinates	Start time	Finish time	Start altitude (m)	Finish altitude (m)	Observer location	Distance to bird (m)	Bearing to bird (degrees)	Seen/heard	Estimate/count	No. of birds
G & H Welch	20/03	Hamboktou Forêt du Day	1	E: 0246083 N: 1305113	E: 0246205 N: 1304877	08.31	08.53	998	1021	E: 0246083 N: 1305113	30	230	Heard	Count	1 Male
										E: 0246083 N: 1305113	<150	290	Heard	Count	1 Male
										E: 0246108 N: 1305017	150	150	Heard	Count	1 Male
										E: 0246117 N: 1304997	<150	90	Seen	Count	2 Pair
										E: 0246117 N: 1304997	>150	90	Heard	Count	1 Male
										E: 0246178 N: 1304900	>150	275	Heard	Count	1 Male
G Welch	24/03	Goula Wadi 2	2	E: 0282338 N: 1322611	E: 0280616 N: 1323079	06.24	09.16	785	1131	E: 0282230 N: 1322694	15	302	Seen	Count	1 Female/subadult
										E: 0282008 N: 1322644	80	23	Heard	Count	1 Male
										E: 0281951 N: 1322656	>150	08	Heard	Count	1 Male
										E: 0281951 N: 1322656	<150	282	Heard	Count	1 Male
										E: 0281720 N: 1322849	80	298	Heard	Count	1
										E: 0281396 N: 1322876	>150	240	Heard	Count	1 Male
										E: 0281445 N: 1322801	100	296	Heard	Count	2 Males
										E: 0281060 N: 1322777	70	230	Heard	Count	1 Male
										E: 0280964 N: 1322802	20	198	Heard	Count	1
										E: 0280873 N: 1322822	150	216	Heard	Count	1 Male
										E: 0280616 N: 1323079	100	218	Heard	Count	1 Male
										E: 0280616 N: 1323079	100	248	Heard	Count	1
H Welch	24/03	Goula Wadi 3	3	E: 0282354 N: 1322332	E: 0281614 N: 1322372	06.29	08.15	770	1001	E: 0282111 N: 1322311	150	290	Heard	Count	1 Male
										E: 0281819 N: 1322279	100	58	Heard	Estimate	2 inc. one male