

## Protection of the Cal-Madow Range of Mountains, Somalia

### *Proposal for an Environmental Assessment Study*

#### Revised Itinerary, 7 October 2006

Location	Days	Total	Activity
Nairobi	2	2	Arrive and fly on to UN airstrip, Bossasso
Bossasso	1	3	Collect car. Meet Puntland authorities
Bossasso-Macag	1	4	
Macag -Dol	1	5	2 hrs walk from Dheen to Dol, central Al-Madow, to conduct flora and fauna assessment and plant collection assess approaches and peak of Al-Madow mountain; meet local community
Dol and surrounds	1	6	travel to western Al-Madow range to Markad
Dol - Markad	1	7	meet local community
Markad	1	8	
Markad- Laskeray	1	9	meet fishermen
Badham	2	11	meet Sultan Said and local chiefs
Badhan to Nairobi	2	13	Deliver car
Nairobi	1	14	prepare to return to London

#### Costings

Item	£ Cost	x Days	Total
<b>Fees</b>			
Prof M Thulin	220	14	
M Rice (Fauna & Flora International)	170	14	
Ahmed Hersi (Plant Taxonomist)	160	14	
<b>Sub-total</b>			<b>7700</b>
<b>Travel</b>			
London-Nairobi-London	650	3	1950
Uppsala-Nairobi-Uppsala	700	1	700
Car Rental, daily	100	9	900
<b>Sub-total</b>			<b>3550</b>
<b>Security, 3 people</b>	40	10	<b>1200</b>
<b>Equipment</b>			
Laptops	600	1	600
Video Camera	400	1	400
Camera	100	2	200
Stationery	300		300
First Aid Kits	50	2	100
<b>Sub-total</b>			<b>1600</b>
<b>Contingency</b>	1500		<b>1400</b>
<b>Total</b>			<b>15400</b>

## The Cal Madow

*A supporting commentary by Professor Mats Thulin, Department of Systematic Botany, Evolutionary Biology Centre, Uppsala University*

The Cal Madow area in northern Somalia consists of a coastal plain bordering the Gulf of Aden, a hilly sub-coastal zone of varying width, an extensive block of steep limestone escarpment reaching well above 2000m and an uplifted plateau lying to the south. The plateau dips to the south-east and has substantial areas of gypsum. The climate is influenced by the monsoon winds. The erratic rainfall in the coastal and sub-coastal zone is less than 100mm per year, while the upper part of the escarpment is the wettest area in Somalia, receiving a mean annual rainfall of over 700mm. A major part of the rain probably falls during the winter months, during the north-east monsoon, when mists are also frequent. Rain falling on the escarpment is drained to the north and seasonal streams run across the coastal plain, whilst the plateau itself is in rain-shadow.

The coastal plain is desert or semi-desert with little or no vegetation, while the sub-coastal zone has sparse to dense vegetation dominated by woody species of *Acacia*, *Commiphora* and *Boswellia*. At intermediate altitudes, the slopes of the escarpment are largely covered by evergreen or semi-evergreen scrub with, for example, *Buxus*, *Cordia*, *Dracaena*, *Olea* and *Pistacia*. The upper zone of the evergreen scrub grades into remnants of *Juniperus* forest along the scarp.

The total number of vascular plants in Cal Madow can be estimated to around 1000 but the figure is uncertain as large parts of Cal Madow remain inaccessible and unexplored. Cal Madow is one of the main frankincense producing areas in Somalia. Frankincense trees (*Boswellia frereana* and *B. sacra*) occur on cliff-faces and in rocky gullies in the sub-coastal zone. Myrrh (*Commiphora myrrha*) is also found here and the area has a large proportion of the remaining *Juniperus* forests in Somalia.

Many endemic plants are found in Cal Madow, some examples from the escarpment are *Renschia heterotypica* (Lamiaceae, endemic genus), *Aloe eminens* (a tree *Aloe*) and *Euphorbia mitriformis* (a spiny cushion-forming succulent). Examples of endemics of the sub-coastal zone are *Acacia cernua* and *Jatropha aspleniifolia*. Several endemic plants are also found in the gypsum areas on the plateau, such as *Reseda sessilifolia*.

The Warsangeli linnet (*Carduelis johannis*) is a locally common bird restricted to Cal Madow, and the rare Beira antelope (*Dorcatragus megalotis*) is also found here. With its varied and dramatic topography and highly interesting flora and fauna, the Cal Madow area has a definite potential for eco-tourism.