



TROPICAL BIOLOGY ASSOCIATION

**COURSE GUIDE PART 2**

# **KENYA COURSE**

**Information on:**

- **The course site**
- **Arriving in Kenya**
- **Meeting up with the TBA**
- **Maps**
- **References**

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## 1. Mpala Research Centre and Lake Naivasha

The initial 10 days of the course will be at the Mpala Research Centre (MRC). MRC is located in Laikipia District, Central Kenya (0°17'N, 36°53'E), north-west of Mt. Kenya, 50km north of the Equator, and 50km from Nanyuki town. MRC is a facility for scientific research, education, and training in central Kenya, emphasizing environmental sciences, biodiversity conservation, and natural resources management. The habitat is largely savanna and hosts abundant wildlife. MRC is funded through the Mpala Wildlife Foundation, and administered by the Mpala Research Trust, in collaboration with Princeton University, the Smithsonian Institution, the Kenya Wildlife Service, and the National Museums of Kenya.

An estimated 800 plant species occur in Mpala. The vegetation is characteristic of semi-arid African savanna, predominantly grassy savanna bushland, with patches of woodland and open grassland. Dominant trees include species in the genera *Acacia* (Mimosaceae), *Euphorbia* (Euphorbiaceae), *Balanites* (Balanitaceae), and *Boscia* (Capparaceae). More than 2,000 cattle, camels and sheep are ranched in Mpala, but the region also hosts an intact savanna mammal community, including Kenya's second largest elephant population. Currently 85 mammal species and at least 300 bird species can be found in Mpala. Elephants, elands, zebras, oryx and giraffes are seasonally abundant, depending on rainfall and forage availability. Waterbucks, impalas, Grant's gazelles, Jackson's hartebeests and bushbucks are resident. Lions, leopards, cheetahs, spotted hyenas, black-backed jackals, aardwolves and bat-eared foxes are also seen regularly.

Profound changes in patterns of biodiversity occur along altitudinal and climatic gradients that extend from the Mt. Kenya and the Aberdare Highlands in the south (3500m, max. rainfall 1600mm) to the northern lowlands (1000m, mean rainfall 300mm). Mpala is situated sufficiently close to the centre of this gradient that some of the fauna and flora that are characteristic of either the mesic or xeric tend to co-occur there. Obvious examples are Grevy's and Plains zebras, and helmeted and vulturine guineafowls.

The northern two-thirds of Mpala is underlain by dissected Archean terrain with thin dark red sandy loams (latosols). The southwestern one-third of the property is characterized by a 100 m high phonolite lava flow. Soils developed on the flow consist of a catena of black clay vertisols with impeded drainage, with brown calcareous loams (chestnut soils) on the higher elevations and steeper slopes. Scattered throughout this terrain are granitic inselbergs or kopjes, with the largest, 'Mukenya' (1846 m), at the centre. Fifteen dams have been constructed on Mpala, and there are more than 250 km of internal roads.

Due to remoteness of Mpala and presence of elephants, buffaloes and lions, walking is restricted unless accompanied by an armed ranger. However, the quiet wilderness atmosphere is ideal for ecological field exercises on the diverse and fascinating flora and fauna found here. There tend to be large thorns in the habitat around the station so good walking shoes and long trousers are essential.

The rest of the course will be based at the Elsamere Field Studies Centre (EFSC). The centre is set amid *Acacia* woodland community and is situated on the shores of Lake Naivasha in Kenya's Rift Valley. The Field Studies Centre forms part of Elsamere, a residential lakeside facility for conservationists and researchers which was also established by the Elsa Conservation Trust. The main house was built by the late Joy Adamson, the famous author and artist, who left it in trust for the furtherance of conservation in Kenya.

Lake Naivasha is situated in Nakuru District, Kenya and is part of a chain of lakes dotted along the eastern Rift Valley. At 1,890m, Naivasha is the highest of all the Rift Valley lakes and unusual in remaining fresh even though most rift valley lakes are saline. The lake

levels directly affect the vegetation of Naivasha. Much of the shore is currently fringed with dense stands of feathery papyrus (*Cyperus papyrus*) with floating mats of water hyacinth (*Eichhornia crassipes*) on the open water.

Naivasha supports a diverse bird fauna; 80-90 species of water birds are regularly recorded during annual censuses and another 300 or so species have been sighted in the surrounding areas. The *Acacia* woodlands surrounding the lake are particularly rich in biodiversity. Hippos are abundant in the lake and are a common spectacle in the evening as they emerge to graze around its shores.

The course will also visit Hell's Gate National Park, which is situated about 4 miles (6 km) from Elsamere. This small park is bordered by intensive farming on one side and the grazing lands of the Masai pastoralists on the other. The gorge within the park (Lake Naivasha's former outflow) is spectacular, with towering 120m high columnar cliffs and two impressive volcanic plugs that stand as towers. The vegetation is a mix of grassland, woodland and scrub, and a variety of large mammals inhabit the area.

### **Climate**

Warm days and cool nights dominate MRC, with low humidity in the driest season (January-April), and moderate humidity at other times. The rainfall is weakly trimodal, with peaks in April-May, July-August, and October-November, and a distinct dry season in January-February. There is considerable year-to-year variation in total rainfall and in the seasonal distribution of rainfall. The property spans an altitudinal and climatic gradient that is higher, wetter and cooler in the southwest (1850 m; 530 mm annual rainfall), and lower, drier and hotter in the Northeast (1550 m; 400 mm annual rainfall). It is expected to be warmer and hotter especially during the day.

Naivasha is set in a relatively dry region; the average annual rainfall at Elsamere is about 655mm. Parts of Naivasha can also be windy but the winds over the lake are generally weak and come from quite varying directions. The strongest winds (occasionally exceeding 21 knots) normally occur in August and October; July/August is normally dry. The room temperatures are usually 27°C. Evenings are often cold so we recommend that you bring warm clothing (a sweater or a jacket). It is likely that it might rain when you are in Naivasha (so do bring a rain coat with you).

## **What you can expect to find at the field station**

### **Accommodation and facilities**

At Mpala, you will be accommodated in a tented camp (taking at least 2 persons per tent) right beside the benign Ewaso Ngiro River. **Mornings and evenings can be rather cool (often windy too); warm clothing is essential for this part of your stay.** A shared shower facility is available at the campsite that has both cold and hot water. A tented dining area will be available at the campsite. All meals are taken at the river camp.

Most day lectures will be based at the main lecture hall at the research centre while evening lectures will usually be based at the campsite. There will be a well-equipped laboratory and library for basic research.



*Campsite at Mpala Research Centre*

The Elsamere Field Studies Centre has a fully equipped lecture room which we convert into a computer room for use of the TBA laptops. We are also given access to a small laboratory to use for the duration of the course. Recent improvements to the accommodation at EFSC have taken place; you will share newly constructed dormitories that house 4 people to a room. Hot water will be available in all the blocks at certain times of day.

### **Resources**

The TBA will provide everything you need for the course field practicals and projects. There is a room which will be used for lectures and project work. The TBA will also set up a small well-equipped lab and its own research library of books and reprints.

### **Communication**

Mobile phone reception is virtually non-existent at Mpala but extremely reliable at Elsamere; however, please remember that there is a **strict TBA policy that phones should not be used during timetabled activities.**

There will be basic communication facilities (telephone and fax) available during the period you will spend at Mpala. This will be charged at normal Kenya Telecommunication rates. Since you will be here just for a short time (and most of the time you will be occupied while at the centre), perhaps it will be best not to rely too much on these communications during your stay.

In Naivasha, the Field Studies Centre has telephone and fax which are meant for office communication thus only limited usage is allowed to TBA participants so as not to interfere with the normal running of the centre. The centre can deliver mail to the post office. Generally, we encourage participants to keep communication to a bare minimum and only when essential by using the centre's facilities. **To avoid worrying your relatives/friends we suggest you do not promise to phone anyone while you are in Mpala/Naivasha.** In any case, you will only be away for a month!

If you have spare time in Nairobi, this would be the most appropriate time to make calls if you have to. The phones here, especially in internet/telephone cafés, are much more reliable.

### **Contact Addresses in Kenya**

#### **In Nairobi**

##### **Tropical Biology Association**

P O Box 44486  
00100-Nairobi  
Kenya

Tel. +254 20 3749957/3749986/3746090  
Fax +254 20 3741049

#### **In Elsamere**

This is where you will actually be staying for the greater part of the field course

##### **Elsamere Field Studies Centre**

P O Box 1497  
20117-Naivasha  
Kenya

Tel. +254 50 2021 247 **(FOR EMERGENCY ONLY)**  
Fax. +254 50 2021 248

### **Specific Health Issues**

As well as the health information found in the general course guide (Course Guide Part 1), it is worth consulting your doctor and the following website for an up to date information about the current health requirements for the region; [www.cdc.gov/travel.africa.htm](http://www.cdc.gov/travel.africa.htm).

## Arriving in Kenya

### Passports, visas, and entry cards in Kenya

**Make sure you have a valid passport and visa (if applicable) before you travel.** If you do not have one then please get one **AS SOON AS POSSIBLE!**

These requirements are correct at the time of writing (January 2007) according to the latest visa regulations (revised edition 2005) which still apply. **It is essential that all participants check with their respective consulates as these requirements change from time to time and could alter prior to the course start date.**

### **Passports:**

Valid passports or other travel documents (including Seaman's Discharge Book), acceptable to the Government of Kenya are required for all persons wishing to enter Kenya.

### **Visitors:**

Travellers entering Kenya by road from Sudan, Somalia or Ethiopia are advised to pass through gazetted entry points and report immediately to an Immigration Officer.

Generally, nationals of the following countries may be issued with visas on application, and without reference to the Principal Immigration Officer, Nairobi:

Austria, Belgium, Benin, Burundi, Columbia, Denmark, Democratic Republic of Congo, France, Germany, Ireland, Madagascar, Mozambique, Netherlands, Norway, Poland, Portugal, Rwanda, Spain, Sudan, Swaziland, Sweden, Switzerland, U.S.A., United Kingdom, Venezuela.

### **Nationals of the following countries do not require visas to enter Kenya:**

*Commonwealth countries namely:*

Ghana, Malawi, Sierra Leone, Tanzania, Uganda, Zambia, Zimbabwe.

*With the exception of the following commonwealth countries who require visa:*

Citizens of South Africa (for visits of more than 30 days), Citizens of the UK (except serving members of the British military who are exempt from Immigration formalities) and Citizens of Ireland.

Ethiopia and Eritrea concluded visa abolition agreements with Kenya and did not require a visa to enter Kenya. However, with the ongoing conflict in the region, nationals from these countries are advised to confirm with the respective consulates.

### **\*\*Nationals of the following countries require referred visas:**

Cameroon, Nigeria, Senegal and Somalia.

### **Reference and reference fees:**

Where reference to the Principal Immigration Officer, Nairobi, is necessary before the issue of a visa, the completed application forms in duplicate with two recent passport size photographs of the applicant shall be forwarded to the Principal Immigration Officer, Nairobi, for approval in the usual manner to reach him at least one month (note that this period

changes from time to time) prior to the proposed date of the applicant's departure to Kenya. A reference fee of US \$ 10 is collected at the time of application.

**African participants:** if you have difficulties obtaining a visa please contact the TBA Nairobi office **AS SOON AS POSSIBLE**.

Whether you need visa or not to enter Kenya, you will be given a standard entry card to complete. Recent experience indicates that you should make sure that you make the length of the stay that you require very clear at airport/point of entry immigration; **remember that a stamp for '1 month' is not sufficient and will mean that an extension will be needed.**

When filling in **VISA** forms and **ENTRY CARDS**, you **MUST** state that you are a **TOURIST** on the card. You will also need to give your address in Kenya, which will be:

**Tropical Biology Association, P O Box 44486, 00100-Nairobi, Kenya.**

Our contact person in Kenya is **Mr Anthony Kuria** at the above address.

### **Arriving in Kenya by air**

If you are flying in to Kenya, you will arrive at the Jomo Kenyatta International Airport, which is about 20km from the city centre. The TBA will endeavour to meet all flights depending on their arrival time, so **please send us your flight details AS SOON AS POSSIBLE (only applicable if TBA is not arranging your flight).**

In the unlikely event of our being unable to meet you (or if you are arriving early to do some independent travelling prior to the course), taxis are readily available and charge approximately KSh 1,200 (about 15 US\$) . When using taxis say the name of the place and always **AGREE** on the **PRICE BEFORE** entering the taxi. Vehicles go along Mombasa Road, which later becomes Uhuru Highway into town.

### **Arriving by bus or train**

The Central Railway Station is located on the eastern end of Nairobi. It is quite close to the centre of town along Haille Salassie Avenue.

The main bus station is located on Landhies Road and links up with Haile Selassie Avenue and then Uhuru Highway. However, most bus companies have terminus within the city center and often will drop passengers at the "Ambassador" (opposite the Hilton Hotel) off Moi Avenue. From here you can get a taxi or look for one outside Hilton Hotel.

### **Getting around Nairobi**

Nairobi is a busy city with about 3 million inhabitants. Most people will speak either Swahili or English but a blend of the two languages (Sheng) is often spoken. Time in Kenya is GMT +3hrs.

All public transport vehicles in Kenya now have a yellow stripe around them inscribed with route numbers/names, except for a few taxis that have their company names on them. . Unless recommended to by TBA or you know the driver well, avoid any taxi that does not have a yellow stripe on it.

Taxis - these cost around Ksh 100-200 (\$1-\$3) for journeys within town, and Ksh 300 to 500 (\$4-\$7) from town to the National Museums (you will be staying at a hotel near the museums in the Parklands area). These taxis are worthwhile, especially if you are carrying a lot of luggage and/or valuables.

*Matatus* (mini buses) - these are great for getting about town when you have left your rucksack at your hotel and operate at a reasonably low rate. They cost Ksh 20 (\$0.30) to Ksh 40 (\$0.60) for a journey. They are fast and at times furious and best avoided at rush hours or if you have a lot of luggage. The *matatus* to use for National Museums-city center journeys are numbers **23** or **118**. These go to Westlands and the bus stop to get off is '**Museums**' (the bus stops are next to the roundabouts on either end of the Museum Hill Road). You need to remind the conductor that you are alighting at the "Museums bus stop".

Within the city center 'Museums' *matatus* park on the western end of Tom Mboya Street, especially at the Tom Mboya/River Road roundabout. If you have any questions about which bus (number) to take, just ask one of the conductors [usually in a maroon uniform (shirt, trouser and windbreaker type jacket)] or the drivers.

Like anywhere else, you should look after your possessions (including the contents of your pockets) and exercise common sense. By doing so, you should not have any problems.

### **Where to stay in Kenya**

We will provide accommodation in Nairobi for the night before and the last night of the course. We leave Nairobi early in the morning of the start date of the course, so you need to be in Nairobi the evening before at the very latest. If you arrive earlier than the night before let us know if you want us to book accommodation for you.

Here are several suggestions for places to stay: **Note: - Prices for hostels and hotels may change, but below is an indication of the price ranges available.** Please check a website such as [www.xe.com](http://www.xe.com) site to calculate the current exchange rate; at the time of writing (January 2007) the rate is approx. 70 Ksh to 1US\$, 135Ksh to £1 sterling, 90Ksh to €1Euro.

#### **Parkside Hotel Monrovia Street (opposite Jeevanjee Gardens (Tel 020-316507)**

It offers good opportunity to explore the city especially in the evening. It's about 15 minutes walk to the museums using Harry Thuku Road and past Hotel Boulevard. It has secure and quiet self-contained rooms but a bit overpriced (single rooms at Ksh 1600, double rooms at Ksh 2300 and triple rooms Ksh 3100 or 1300, 1700 and 2200 respectively, if bed only; meals prices range between Ksh 200-600).

#### **Parklands Shade Hotel Ojijo Rd (Tel 020-3749870)**

Next to a popular Nairobi clubhouse (K1) offering good entertainment (rather noisy on Fridays and Saturdays) much of the day and night. The hotel is about 5 minutes walk to the Museums. Single rooms are Ksh 2300 and doubles 2600 including breakfast (bed only 2100 and 2350, respectively), while meals are between Ksh 140-780.

#### **The Central YMCA State House Road (Tel 020-2724070 or 020-2724066; fax 020-2728825; email [kenyaymca@iconnect.co.ke](mailto:kenyaymca@iconnect.co.ke)).**

It is within walking distance into the city and quite popular with travellers (both male and female). Alcohol/drinking is not allowed. Self-contained singles rooms are Ksh 940 and

doubles Ksh 1480 (690 and 1180 respectively if not self-contained), including breakfast. Meals from Ksh130 to 350.

**Plums Hotel off Ojijo Rd, Parklands (Tel 020-3745222/3)**

Pleasant, secure, and close to the Nairobi Museums. Room (bed only) costs are; doubles Ksh 1,400; self-contained suites Ksh 1,800; breakfast Ksh150/person, while meals are 180-500.

**Mooreland Hotel - Kolobot Rd, Parklands (Tel 020-3748890 or 3748902)**

This is a recently opened and secure establishment, which is popular and has cheap fast food available. It is about 5 minutes from the rendezvous at Sirona Hotel. Travel here from the city is however tricky and best accessed by taxis. Rooms costs Ksh 900 for singles and Ksh 1200 for doubles.

**Security and banking**

The city of Nairobi, south of Tom Mboya Street is largely secure and you will find lots of shops, cafes, banks and Forex bureau here. It is also much easier to walk in this part of Nairobi, as it is not crowded.

Banks in Nairobi and other large Kenyan towns open from 9 a.m. to 3 p.m, Monday to Friday, and 9 a.m. to 11 a.m. on Saturday's (some only on the first and last Saturday of each month). Twenty-four hour access to your account can be facilitated through ATMs countrywide at various banks. Some banks at the International Airport open round the clock everyday, as do the foreign exchange bureaus.

Most international credit cards are accepted in Kenya. Barclaycash ATMs accept any International VISA and MASTERCARD credit cards. Standard Chartered Bank's computer network allow access to over 60 moneylink ATMs situated at all its branches, major shopping malls, gas stations and other strategic locations countrywide.

Some recommended Forex bureau include **Chase** (Gilfillian Hse, Kenyatta Avenue), **Taipan** (New Stanley Building, Kenyatta Avenue) and **Continental** (Old Mutual Building, Kimathi Street). There is a bank at Hilton Hotel that is open until 8.00pm to change money. Traveller's cheques in Sterling or US Dollars are now accepted in most places and are recommended for your trip to Kenya.

## Meeting up with the TBA: the course rendezvous

The TBA will book and provide your accommodation with a meal in Nairobi for the night before the course begins and on the last night of the course at Sirona Hotel. **This is also the meeting place for all TBA course participants at 18.30 the evening before the course starts.**

**Getting there:** You do not need to worry about the route from the airport since you can easily get a taxi. When using taxis say the name of the place and always agree on the price before entering the taxi. Sirona Hotel is off Kolobot Road on Keiyo Road, Parklands and about 10 minutes walk from the National Museums.

The rendezvous or **meeting place** for **ALL**  
TBA course participants is at:

**Sirona Hotel\*, off Kolobot Road on Keiyo Road, Parklands  
(Meet in the Terrace Bar)**

**At**

**18:30 the evening *BEFORE* the course begins**

**Please make sure you get to Sirona Hotel the evening before the start date of the course. We will be travelling to Mpala very early the next morning. Further information will be sent to you before your course starts.**

**\* in the event of a change to this arrangement we will inform you immediately**

### **Getting from Nairobi to the Mpala Research Centre with the TBA**

On the morning of the start date of the course we will drive you all from Nairobi to the Mpala Research Centre, via Nanyuki town, which should take around 5 hours. Although quite a tiring journey it is a good chance to get to know your fellow course participants.

### **If you miss the rendezvous - what to do**

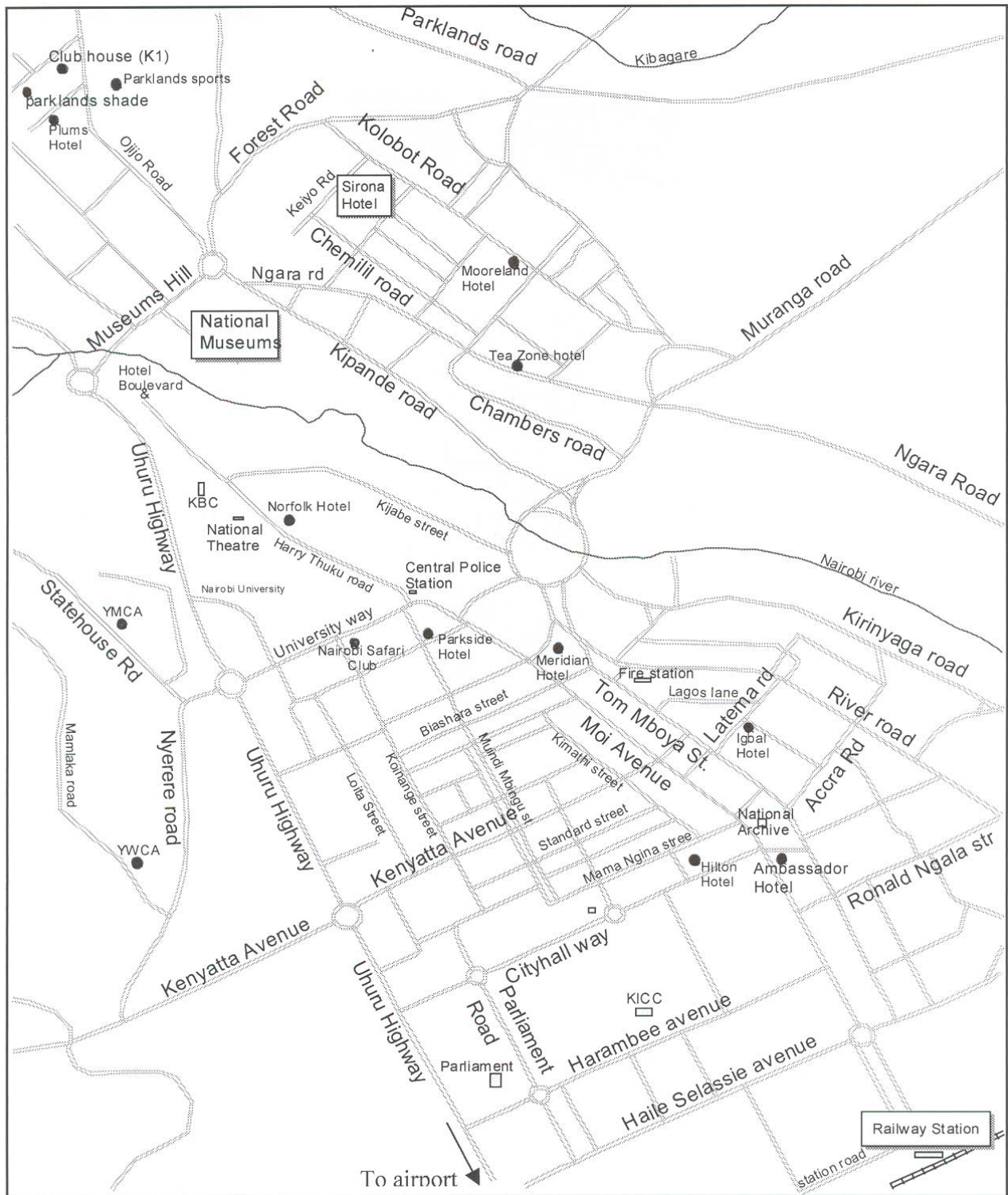
If you arrive late and miss the rendezvous, you will have to take the Nanyuki bound bus from Nairobi at the River Road/Latema Road junction next to Coast Bus Booking Office and alight at Nanyuki Town. Once you are in Nanyuki make your way to Marina Grill and Restaurant, if you are being picked by TBA. You can also take a taxi from Nanyuki town to Mpala Research Centre. This should cost no more than Ksh 4000 (US\$80). However, you are **STRONGLY** advised NOT to miss the rendezvous, as there is no direct way to get to Mpala by public transport.

## Maps

**Map 1. Kenya, showing the Mpala Research Centre (MRC), Elsamere and Hell's Gate National Park.**



**Map 2 – Nairobi city centre**



## References

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### General Reading

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Travel guides are a valuable source of useful information and will give you an overview of Kenya, its history, geography and places of interest. **The Rough Guide to Kenya** (Richard Trillo) is highly recommended for independent travel plans. **The East African Handbook** (Trade and Travel Handbooks) covers East Africa, as does the **Lonely Planet East Africa** guide.

### Field guides (\* recommended)

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Agnew, A.D.Q. & Agnew, S. (1995) *Upland Kenya Wild Flowers*. East Africa Natural History Society. (Available from EANHS, Box 44486, 00100-Nairobi.)

Beentje, H. (1995) *Kenya Trees, Shrubs and Lianas*. National Museums of Kenya. (Available from NMK Herbarium, Box 40658, Nairobi.)

Blundell, M. (1992) *Wild Flowers of East Africa*. Collins

Dharani, N. (2002) *Field Guide to the Common Trees and Shrubs of East Africa*. Struik Publishers.

\*Estes, R. (1991) *The Behaviour Guide to Africa's Mammals*. California University Press.

\*Kingdon, J. (1997) *The Kingdon Field Guide to East African Mammals*. Princeton University Press.

\*Larsen, T. (1991) *The Butterflies of Kenya*. OUP. (*Expensive but good for butterfly specialists*)

Stevenson, T. & Fanshawe, J. (2002) *Field Guide to the Birds of East Africa*. T. & A. D. Poyser, London.

van Oudtshoorn, F. (1992) *Grasses of South Africa*. Brita Publikas Co.

\*Zimmerman, D.A., Turner, D.A. & Pearson, D.J. (2002) *Birds of Kenya & Northern Tanzania*. Helm Identification Guides.

## **General academic reading**

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The following list includes some useful background to tropical ecology and conservation, with a focus on East African ecosystems.

Bennun, L. & Njoroge, P. (1999) *Important Bird Areas in Kenya*. Nature Kenya (East Africa Natural History Society). (Available from Nature Kenya, Box 44486, 00100-Nairobi.)

Bond, W.J. & van Wilgen, B.W. (1996) *Fire and Plants*. (Volume 14 in the Population and Community biology series). Chapman and Hall, London.

Britton, P.L. (ed) (1980) *Birds of East Africa: their habitat, status and distribution*. Nairobi: EANHS.

Dytham C. (1998) *Choosing and using statistics*. Blackwell Science Ltd.

Homewood, K. M. & Rogers, W. A. (1991) *Maasailand Ecology*. Cambridge University Press

Kingdon, J.A. (1990) *Island Africa: The evolution of Africa's rare animals and plants*. Collins, London. See chapter 7, "Zinj Coast".

Owen-Smith, R.N. (1992) *Mega-herbivores*. Cambridge University Press

Scholes, R.J. & Walker, B.H. (1993) *An African Savanna*. Cambridge University Press

Werner, P. A. (1991) *Savanna Ecology & Management*. Blackwell

## **References**

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Bond, W.J. & Midgley, J.M. (2001) Ecology of sprouting in woody plants: the persistence niche. *Trends in Ecology and Evolution* **16**:45-51.

Bond, W.J., Smythe, K.A. & Balfour, D.A. (2001) *Acacia* species turnover in space and time in an African savanna. *Journal of Biogeography* **28**:117-128.

Fritz, H. & Duncan, P. (1994). The carrying capacity for large ungulates of African savanna ecosystems. *Proceedings of the Royal Society of London Series B – Biological Sciences* **256**:77–82.

Fritz, H., Duncan, P., Gordon, I.J. & Illius, A.W. (2002) Megaherbivores influence trophic guilds structure in African ungulate communities. *Oecologia* **131**:620-625

## **Useful Websites**

For information about the Elsa Conservation Trust and Elsamere in general:

[www.elsatrust.com](http://www.elsatrust.com)

For information about the Kenya Wildlife Services and the Hell's Gate National Park:

[www.kws.org/NP/Hell's Gate NP](http://www.kws.org/NP/Hell's Gate NP)

For information about the Mpala Research Centre:

[www.mpala.org](http://www.mpala.org)

## **Past Projects**

The following are examples of the types of projects carried out by participants on TBA courses in Kenya.

### **Plants**

#### **Botany and Plant ecology**

- Age structure and regeneration of *Acacia xanthophloea*
- Density dependent relationship between *Dactylopius opuntia*, *Opuntia vulgaris* and *Cheilomenes lunata*.
- Age structure, regeneration pattern and spatial distribution of *Tarchonanthus camphoratus* and *Acacia drepanolobium* in Hell's Gate National Park, Kenya.
- The impact of water holes on the vegetation at Hell's Gate National Park – a Management Plan.

### **Invertebrates**

#### **Invertebrates – general**

- Variation in diurnal and nocturnal ground invertebrate fauna in Elsamere Conservation and Field Study Centre.

#### **Plant-animal interaction**

- The relationship between *Acacia drepanolobium* and ants associated with the galls in Hell's Gate National Park, Kenya.
- A comparative study of the life histories and ant-tree mutualisms of two *Acacia*-ant species: *Crematogaster nigriceps* and *Tetraponera penzigi*.
- An investigation into mussel scale prevalence on *Aloe secundiflora*.

#### **Butterflies**

- Butterfly oviposition: does it follow ideal free distribution?

#### **Limnology**

- A study of benthic invertebrates in the changing environment of Lake Naivasha.

### **Birds and Mammals**

- A study into the daily pattern in feeding behaviour of sunbirds (Nectariniidae) on *Cotylendon barbayi*.
- Vigilance behaviour and group size of Grant's Gazelles in Hell's Gate National Park.
- Grazing behaviour of medium-sized herbivores: a comparison between Thomson's Gazelles and Warthog.

### **Socio Ecology and Ethnobotany**

- The commonly used plant species by the Maasai in the vicinity of the Hell's Gate N. Park.
- A study of the visitors to the Hell's Gate National Park.