

to ask what arrangements  
 are made for the regular  
 comparison of the stocks  
 of numbered forms with  
 the number of money  
 orders stated to have been  
 issued, and for the  
 verification of the amounts  
 of such orders.

EAST AFR. PROT

7576

28 FEB 14

7546

Dep. Govt 128

Boiling

1914

Feb. 1914

Last previous Paper

Gen 1912  
 124  
 124  
 124

WORK FOR OFFICE

See also 106

To A. G. 27 1914

See also  
 AF

... amended with medical  
 matter  
 ... most is retained after should not  
 ...  
 ... I see no reason for altering 'anopheles'  
 as 'Culis' is 'Culis' and 'Culisine'; or  
 p. 24 the principle breaks down under 'Stegomyia'  
 (the kind variety) and on p. 24 I detect an 'anopheles'  
 on p. 24 'Culis with bread' is better than 'Culisine'  
 with bread. The sup on p. 24 is to 'anopheles' etc  
 ... should retain 'Culis' and 'Anopheles'  
 throughout

(3) ~~Amendments~~ Most of the amendments and insertions  
 are in the worst possible English, and in most  
 cases it would be impossible to correct them without  
 reversing the whole sentence.  
 ... provided that weather conditions  
 ... would be better than ... conditions admit  
 of such being done!

Last subsequent Paper

10483

I give up the worded paragraph inserted at the top of p. 2  
 p. 33. The words 'It is culisine that' are superfluous  
 (old usage) is endorsed to 'being effected' (ITO)

Mr. Fishburne

I do not think that the circulars need  
be inserted in the intro & the 2nd para under  
Entire Form in the slips attached to page  
55 should be omitted the as stated the  
second para under 'small page', otherwise I  
think the slips should be inserted.

The attached circulars need if necessary  
be handed to every post office in the U.S.

Oct 21/3/14.

The SPP suggestions are not very elaborate  
to agree with the objection to inserting the circulars  
they would be quite out of place

11/27/14

See Sec 2  
Spare on all points

Oct 27 1914

27

That the Book contains a disproportionate amount  
of medical information. The addition of the  
Circulars referred to would almost double the  
size of the book, and candidates for applicants  
in Africa would be more benefited than ever.

It was suggested that the circulars should  
be placed in a separate book or pamphlet  
to be distributed to applicants for Africa  
in the future.

Before small box inoculation, such  
vaccination was leaving for the Post, as always  
required in candidates for Africa  
post acceptable should be reasonable

In 1913 I asked P.D.P. whether they agreed  
with the suggestions made on Africa. As far  
as I can see none of the P.D.P. amendments  
conflict with those suggested in 1912.

But we had better wait for a definite  
reply from P.D.P. as one died in 1912.

and in the meantime  
to Mr. Fishburne on 1/3/14.

The Fishburne

It is not clear how correct of the form  
will be sent to you on the matter. I am  
not sure whether it is better to have all these  
circulars in one book or to have them  
separately.

As far as the circulars are concerned  
I should think it better to have  
them in one book in any case. As far as  
the circulars are concerned, I should think it better  
to have them in one book in any case.

Oct 17 1914

? Only P.  
last book 1/14

1/14

circles  
NA is satisfied  
Sufficiently

757689

GOVERNMENT HOUSE: 28 FEB 14

NAIROBI,

BRITISH EAST AFRICA.

February 5th 1914.

EAST AFRICA PROTECTORATE.

No. 128

Sir,

*110  
32-185  
13*

I have the honour to acknowledge the receipt of your despatch No. 879 of the 17th of October and to return herewith the copy of "Notes for Officers appointed to East Africa and Uganda" with such alterations as are considered desirable.

Notes  
Circulars  
Pamphlet

1. I also enclose copies of certain circulars issued by the Medical Department together with a pamphlet on the sanitary care of Out-Station, portions of which the Principal Medical Officer thinks might with propriety be incorporated in the new edition.

3. I regret that, owing to pressure of work in the Principal Medical Officer's office due to the visit of Professor Simpson, and other urgent business, it was not possible to revise the work in time to reach you by the date mentioned in your despatch quoted above.

4. I understand that a copy is forwarded by the Colonial Office to every officer who is appointed in England. On of the circumstances, copies will only be required by this Government

107

THE RIGHT HONOURABLE  
LEWIS HARCOURT, P.C., M.P.,  
SECRETARY OF STATE FOR THE COLONIES,  
DOWNING STREET, LONDON, S.W.

(2)

for transmission to officers appointed locally or from South Africa, and I am of opinion that 50 will be sufficient.

I have the honour to be,  
Sir,

Your humble, obedient servant,

*W. J. Mouson*

In the absence of the  
GOVERNOR.

C. 57  
7576  
91  
29 FEB 14

**MEDICAL DEPARTMENT**

**EAST AFRICA PROTECTORATE.**

**CIRCULAR.**

*Destruction of Mosquitoes*

1. In the general interest of the Public Health and, in particular, with a view to preventing or checking the introduction and spread of malaria and other malarial and other malarial diseases, you are invited to co-operate with the Health Officer in the destruction of mosquitoes.

It is by mosquitoes that malaria and certain other dangerous diseases are spread. As mosquitoes can only breed in standing water, you are accordingly,

- (1) To see that any tanks or jars or other receptacles either in your house or in your compound are screened or covered effectually.
- (2) To arrange that all holes excavated for the purpose of planting trees, or for the erection of fence poles, are filled up with the least possible delay.
- (3) To insist that your house drains and rain chutes are kept clean and maintained in good repair.
- (4) To take care that none of the following articles are kept lying about your compound, viz:

- (a) Bottles, whole or broken.
- (b) Tins.
- (c) Broken pieces of earthenware.
- (d) Cocoanuts.
- (e) Calabashes or any other things, capable of holding water.

2. To provide that all hollows in the ground about your compound or adjacent premises are filled up or drained effectually, and warn members of your household that water kept in

- (1) Washing Tubs,
- (2) Flower Vases,
- (3) Chickens drinking vessels

should be changed at least twice a week and the vessels themselves should be covered with lowly vegetable growths. The presence of such growths being the mosquito larva and keeps them alive and being exposed.

3. All main houses in the Court, should be surrounded with trees

4. Birakas, so thoroughly emptied.  
5. Should you may surround you a garden to direct your garden to the base of the house might further direct as to secure the floor to create a jungle.

6. Should you be an owner of an area or areas of land, or find yourself in charge thereof ~~in~~ behalf of another, and should such area or areas be possessed of drains, wells, water holes, ponds, puddles, or streams, you will greatly further the cause of Health by seeing that such drains, wells, water holes, ponds, puddles, or streams are kept clean and free from mosquito-larva.

7. Should others be resident on the area or areas referred to in (6) and should you be in a position of control over them, or, should you be regarded with confidence by them, you might, with benefit to yourself and themselves, endeavour to make them appreciate the advantages of checking mosquito breeding.

.....  
*Medical Officer.*

- (5) The cleanliness of the latrines and closets attached to a house should be rigorously attended to and a box of earth should be kept in each of these places. Whenever a place of the kind has been used, sufficient earth to completely cover the deposit should be subsequently added by means of a scoop.
- (6) The occupier of a house should see that his servants or their visitors are not allowed to micturate or defecate on the ground attached to his residence. A favourite place for the former performance is that which adjoins the back of the kitchen. The grounds surrounding a building should be kept trim and free from undergrowth as the absence of cover discourages these practices.
- (7) The cleanliness of the kitchen and its contents is a matter which needs constant supervision. The "Moto wa Jiko" is prone to scour his pots and pans in the earth and ashes adjoining the store of his operations, and, as he or his friends may perhaps select the same site for micturating at night, the possibilities of the combination are obvious.
- (8) Servants should wash their hands thoroughly before being permitted to attend at table. Their clothes and the quarters occupied by them should be always clean.
- (9) The grounds surrounding a building should be kept free from accumulation of garbage, manure, refuse, and other filth, as the presence of these materials encourages the breeding of flies.
- (10) When flies invade a building immediate steps should be taken to destroy or drive them out.
- (11) When laneways or unoccupied plots in the township are noticed to be used for purposes of micturition, etc., the Police authorities should be notified of the fact.
- (12) Water should not be drunk which has been drawn from pools or streams unless it has been boiled previous to use.
- (13) Tanks used for the storage of rain water should be of the overground variety and be furnished with taps.

# EAST AFRICA PROTECTORATE.

7576

## MEDICAL DEPARTMENT.

29 FEB 14

CIRCULAR No. 430.

### ENTERIC FEVER.

#### Brief Notes on its Causes and Prevention

As cases of Enteric or Typhoid Fever have occurred in the Protectorate the following information regarding the occurrence of the disease may be of interest to you.

It is caused by the entrance into the body of a special microbe. This can be brought about by:

- (1) direct or indirect contact with a person suffering from the disease or with a "Carrier."

NOTE:—A "Carrier" is a person who has had an attack of typhoid fever, and who, otherwise perfectly healthy and able to follow his avocation, yet continues to excrete the microbe.

- (2) water which has been contaminated with the excreta from a case of the disease,
- (3) food which has been contaminated in the same manner, or
- (4) the retention of infective matter in the neighbourhood of dwellings.

"The most frequent mode of infection is by contact or by the mouth, the virus either being contained in water, milk or other food, or conveyed directly by the unwashed hands after contact with infected matter" (*Whitelegge and Newman*.)

"In connection with infection contracted from filth or through food the agency of *flies* must not be forgotten. The domestic house-fly and other forms have been proved to be carriers of contamination on their antennae and legs" (*Vireo quoted by Whitelegge and Newman*.)

The disease varies in its severity, some cases being of so mild a character that the patient may continue to pursue his daily avocations, being only conscious of a slight sense of ill-being. Such a person is none the less capable of transmitting the disease to others.

A consideration of the above facts makes it clear that the disease is largely, if not entirely, avoidable and the following hints may be of service towards this end, viz:

- (1) The hands should always be carefully washed before partaking of food, the water for the process being obtained from a reliable source and, preferably, hot.
- (2) A special vessel should be maintained for the holding of the water wherewith the mouth and teeth are cleansed. The water for these processes should be obtained from a reliable source and be, preferably, boiled before use.
- (3) Uncooked foods, such as salads, should be avoided, unless their origins are unimpeachable. It would be best to allow no food to come to the table which has not been cooked.
- (4) Milk should be boiled beforehand. Foods such as cold meats, milk, butter, etc. should be stored in dry, cool places when not actually on the table.



- (5) The cleanliness of the latrines and closets attached to a house should be rigorously attended to and a box of earth should be kept in each of these places. Whenever a place of the kind has been used, sufficient earth to completely cover the deposit should be subsequently added by means of a scoop.
- (6) The occupier of a house should see that his servants or their visitors are not allowed to micturate or defecate on the ground attached to his residence. A favourite place for the former performance is that which adjoins the back of the kitchen. The grounds surrounding a building should be kept trim and free from undergrowth as the absence of cover discourages these practices.
- (7) The cleanliness of the kitchen and its contents is a matter which needs constant supervision. The "Mtoto wa Jiko" is prone to scour his pots and pans in the earth and ashes adjoining the floor of his operations, and, as he or his friends may perhaps select the same site for micturating at night, the possibilities of the combination are obvious.
- (8) Servants should wash their hands thoroughly before being permitted to attend at table. Their clothes and the quarters occupied by them should be always clean.
- (9) The grounds surrounding a building should be kept free from accumulation of garbage, manure, refuse, and other filth, as the presence of these materials encourages the breeding of flies.
- (10) When flies invade a building immediate steps should be taken to destroy or drive them out.
- (11) Where laneways or unoccupied plots in the township are noticed to be used for purposes of micturition, etc., the Police authorities should be notified of the fact.
- (12) Water should not be drunk which has been drawn from pools or streams unless it has been boiled previous to use.
- (13) Tanks used for the storage of rain water should be of the overground variety and be furnished with taps.

MEDICAL DEPARTMENT.

CIRCULAR No. 136.

CHOLERA.

As Cholera occurs in countries which are in direct communication with this Protectorate the following notes on the disease will be of interest to residents:

It is a disease caused by swallowing a microscopic organism which grows in the intestine and gives rise in its growth to poisons which cause the symptoms of the disease.

The Cholera organism is carried almost entirely by water and food but handling of articles soiled by Cholera patients may result in soiling of the hands and accidental infection.

Water is usually infected by fouling with excreta from cases of Cholera.

Food may be infected by washing with infected water (e.g. salads), or by flies passing from the dejecta of a Cholera patient to articles of food.

Precautions to be taken during an outbreak.

No uncooked food should be taken.

Milk should be boiled.

All water used in a house whether for drinking or for other domestic purposes should be boiled. If unboiled water is allowed in a house there is always the danger of a careless servant using it to fill jugs whereas if all water in the premises is boiled there is no temptation.

All articles of food should be kept in fly-proof receptacles.

All cloths used by servants in kitchen and pantry should be rung out in boiling water at least once a day.

Servants should not be allowed out of the compound and their food and drink should be as carefully supervised as the owner's. Where marketing has to be done by a servant he should only be allowed to go in approved slibs and instructed to go and return directly. But the only safe way of marketing when Cholera is about is to do oneself.

Since a patient recovered from Cholera may carry the organism in his intestine for as much as 70 days and a person apparently in good health who has never suffered from Cholera may nevertheless harbour the organism for from 10 to 14 days, the greatest care should be taken in the disposal of excreta. Casual defecation should be most rigorously combatted and defecation should take place into a sufficient depth of disinfectant to prevent flies having access to the dejecta.

All manure and garbage heaps should be burned, buried, or covered with a thick layer of soil, since it is in such heaps that flies breed. The most scrupulous cleanliness should be insisted on in the compound and boys and girls in the house should be caught and destroyed. Sticky fly-traps such as "Tanglefoot" are very useful and a dish of milk containing 4-8 grains of formalin will attract and kill many.

A basin of disinfectant should be kept in the pantry and the hands should be washed in this before serving any meal.

All cases of Cholera and other digestive disturbance should be reported at once to the medical officer. In some cases of Cholera many have died yet the excreta from a case will be capable of setting up a case in other people.

## MEDICAL DEPARTMENT.

CIRCULAR No. 142.

**RABIES.**

As it has been proved recently that Rabies (Hydrophobia) exists in this Protectorate, it is important that the public should know the steps to be taken when an animal suspected of the disease is met with.

Naturally, such an animal will be immediately slaughtered but it must be clearly understood that the accurate diagnosis of the disease depends on the examination of the nervous system, and therefore the head of the animal should not be damaged when it is possible to avoid it.

When the suspected animal is slaughtered near Nairobi, its body should be sent *immediately* to either the Veterinary Laboratory, Kabete, or to the Medical Laboratory, Nairobi.

When the animal has been slaughtered at such a distance from Nairobi that the body cannot be got to the laboratory within 24 hours, it is advisable to cut open the stomach and to remove and bury all the gut streas, sending only the opened body.

When the distance from Nairobi is such that putrefaction would be certain to occur on the journey, the ideal course would be to remove the brain and spinal marrow, place them in a bottle in pure glycerine and so forward. Where a medical or veterinary officer can be consulted and his help obtained, this method should be followed. But cases may occur far from any trained assistance, when not even the necessary glycerine can be obtained. In such circumstances the animal's head should be cut off and forwarded packed in a tin or put in salt or in a thin syrup of sugar and water.

All particulars of the reasons for suspecting Rabies should be sent.

No antiseptic, except glycerine, salt, or sugar and water, should be added.

It must be remembered in handling the slaughtered animal that the infection is conveyed by the saliva. No one with scratches or sores on the hands should touch such an animal, and whoever carries out the necessary manipulations on such an animal should wash his hands carefully with some antiseptic when finished.

# EAST AFRICA PROTECTORATE.

## MEDICAL DEPARTMENT.

CIRCULAR No. 150.

### Memorandum of Advice regarding RAT Destruction.

97  
7576

28 FEB 14

The following measures will be found useful for this purpose, viz:—

#### I.—THE LAYING OF RAT POISON.

Various preparations exist. One commonly used in this country is called "Common Sense Exterminator." Full directions for its use are given on the labels of the tins containing it.

The following precautions should be taken when laying it:—

- (1) The prepared bait should be placed as near the runs and holes of rats as possible at night. The number of portions laid should be counted.
- (2) All bait left over next morning must be removed and burnt.
- (3) Repeat nightly till no more bait is taken.

#### II.—THE SETTING OF TRAPS.

##### (1) Wire Traps.

The large wire traps are a serviceable type. They can be advantageously set near the animals' haunts and preferably close to a wall.

Great care should be taken in choosing baits; these should be changed frequently and should be of a nature to attract the rat.

##### (2) Barrel Traps

This form is useful in warehouses and other places where rats are known to exist in large numbers. It consists of a barrel or cask half full of water with a tilting lid which precipitates the rat into the water beneath. The lid should be made a little smaller than the top of the barrel to allow it to cant freely upon an iron bar which should be fixed at the top of the barrel. A large piece of rancid cheese is attached beyond the middle of the lid to serve as a bait.

The trap is completed by placing a board on the chimes of the barrel and resting it on the floor to ensure the approach of the rat from the proper side.

III.—All live rats should be killed by drowning in water to which a disinfectant has been added.

IV.—All rats killed, or found dead, should be sent to the Government Laboratory for examination in a tin containing a solution of disinfectant with the following information:—

Name of place or address.

Sender's name.

Date.

#### V.—WHEN MEASURES OF RAT EXTERMINATION ARE INITIATED OR IN PROGRESS.—

- (1) Warning should be given to the inhabitants of the neighbourhood in which poison is laid as to its danger.
- (2) Precautions should be taken to prevent rats having access to food-stuffs. Such should be locked up when poison is distributed.
- (3) Records should be kept of poison laid in any particular place.
- (4) Traps should be kept clean by scalding.
- (5) Great care should be exercised in handling the bodies of dead rats; these should be lifted by means of a pair of tongs, a shovel, sticks or some such means and dropped into a tin containing a solution of disinfectant.
- (6) Kitchen or other refuse or discarded foodstuffs should not be allowed to accumulate near the main building or outhouses.

## SANITATION DEPARTMENT.

CIRCULAR No. 161.

*Epidemic Cerebro Spinal Meningitis.*

Epidemic cerebro spinal meningitis is a disease caused by infection by a bacterium known as the "*Meningococcus*."

*Symptoms and course.*—The symptoms and course of the disease are liable to vary very much. Abnormal and mild cases can only be diagnosed by a man with some experience of the disease and often require the services of a bacteriologist for a certain diagnosis to be made.

In typical cases the first symptoms are fever, of sudden onset, and headache. The headache becomes localized in the back of the head and neck, and becomes not so much an ache as an acute pain which may extend down the spine. The head becomes drawn back and there may be tenderness along the spine. At this stage the patient's mind may be clear but extreme restlessness is common. In mild cases the disease may stop here and the symptoms pass off; in severe cases the symptoms become aggravated, the patient becomes delirious or unconscious and may fall into a state of coma and die after only a few days' illness. Should the coma clear up, the patient may become convalescent.

In the case of infants and children a history of fever would usually be usually all that is obtainable from a young intelligent European case it is often possible to obtain a history of the illness "with or without sore throat preceding by some days the onset of the typical symptoms." As a rule, however, this "cold" in the nose is a result of a latent infection existing with the spread of the disease.

*Spread of the Disease.*—In the past years it has been recognized that cases of epidemic cerebro spinal meningitis are heavy cases of a very mild but more widespread disease in which a severe and dangerous complication may arise. This widespread disease is a "meningococcal nasopharyngitis" and is a sore throat caused by the *Meningococcus*. People may suffer from this milder complaint and recover without ever showing any signs of the dangerous complication. Others may develop the dangerous complication and become typical cases of meningitis. But a person suffering from the milder form is perfectly fit to perform the duties of a healthy person who may develop meningitis. These milder cases are called "colds" are the great difficulty in this way of stating is that in a milder disease, the sufferers being known as "attackers" are not to be isolated or isolated and precautions taken but it is not possible to decide whether every one is suffering from the ordinary form of cold or from a spreading cold.

*Precautions.*—When dealing with a case of an infectious disease it should be isolated, and the greatest care taken to disinfect sputum and nasal discharge. The room should be easily killed by trying or heat, so that articles of furniture in a room should be frequently moved on to the sun and any articles used by the patient should be put into boiling water. Handkerchiefs should be frequently changed and the soiled ones put at once into boiling water. The patient when convalescent should use anti-septic gargles and nasal douches, and these should be used as a routine by attendants on a patient.

When meningitis is known to be about, every "cold" should be looked on with suspicion and any one suffering from a "cold" should use antiseptic gargles and nasal douches. Particular attention should be paid to handkerchiefs which should be frequently changed, promptly boiled, and never used in any other way, unless for a cold or indeed for any body else.

Plague having appeared in Kombasa the attention of the public is invited to the following notice:-

Plague is a dangerous disease and every case of sickness should be immediately reported to the Health Office or Medical Officer.

Plague shows itself in 3 forms viz Bubonic, Septicæmic and Pneumonic. In the Bubonic there are swellings or buboes in the groin, armpit, or neck. In the Septicæmic and Pneumonic there are no buboes or swellings. The two latter forms without buboes or swellings are the most fatal kind. The Pneumonic form attacks the lungs.

All forms of plague take their origin from a disease in rats and it is by rats that the bubonic or Septicæmic forms of plague, are spread. The rats spread the disease in two ways. The fleas on the sick rat bite human beings and infect them with plague. The sick rats also infect food and those who eat this food are attacked with plague.

Fleas also spread plague. On the other hand Pneumonic plague is directly contagious and is spread by the breath of those who suffer from the disease.

PRECAUTIONS

1. Inoculation Against plague. Inoculation gives an extraordinary protection against an attack of plague, and in those exceptional cases where inoculated persons are attacked he or she has twice the chance of recovery over that of one not inoculated. Every one should be inoculated against plague.

a. This will be done at the Health Office daily between half past eight and noon and again from two to four Sundays excepted from charge by a medical officer.

There is a special room in the Health Office where ladies and women can be inoculated privately as a lady

inoculator.

The inoculation is perfectly harmless and is much less painful than vaccination against small-pox.

b. Arrangements will also be made for inoculation of parties of Burdah or Zenana ladies provided they assemble at a private house or place.

2. Restriction of rats. All rats inside and outside the house should be destroyed, and the bodies burnt.

3. Protection of Foodstuffs. All food should be kept in covered vessels so that rats may not infect it.

4. Removal of Waste and Rubbish. All accumulations of unconsumed food stuff and of rubbish in and outside the house, also in court yards and back yards should be collected and placed in kerosine oil tins or baskets should be put outside the house, and they will be removed by the Conservancy staff. Any complaints of non-removal should be addressed to the Health Officer.

5. Clearing of Bush. Bush or undergrowth around houses and in compounds should be cleared in order to avoid the harbouring of rats.

6. Cats. Each householder should keep a cat on his premises.

7. Admission of sunlight to house. Every door and window in each house should remain open for not less than 6 hours daily, so that as much light and air as possible may be admitted into every portion of the house.

8. Daily Exposure of Household Goods to Sunlight. All beddings, blankets, clothes, curtains, mats and fabrics which harbour flies and bugs should be spread out and exposed to the sun for several hours each day. Blankets and mats should be thoroughly shaken and beaten daily and the beds frequently washed.

9. Cleaning of House & Measures against Flies and

Bugs. Every portion ~~within~~ of the house and its contents should be thoroughly cleaned every day, and washed with disinfectants which will be supplied free by the Health Office to the poor on application. Bedsteads mats and other fabrics should specially be washed with sea water or other disinfectants and afterwards placed in the sun in order to destroy fleas and bugs.

10. Notice of Sickness to the Health Office. All cases of sickness should be immediately reported to the Health Office and also the presence of lying, or dead rats in the house or premises.

11. General Cleanliness essential. Cleanliness of person, clothes, house and household goods, and freedom from fleas, bugs and rats in the house are, in addition to inoculation, the best safeguards against plague.

By order

Chief Sanitation Officer.



INCLOSURE *W.T.*  
In Despat. No. 128 of S. 2. 1914

NOTES  
FOR  
OFFICERS APPOINTED TO  
EAST AFRICA  
AND  
UGANDA.

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1912.

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BLANK PAGES FOR NOTES

## I.—GENERAL NOTES ON EAST AFRICA AND UGANDA.

In the large extent of territory included in the two Protectorates, ranging in altitude from sea-level to 17,000 feet above sea-level, there are necessarily great variations in the climatic conditions.

The total area of the two Protectorates, extending from  $4\frac{1}{2}^{\circ}$  S. to  $4\frac{1}{2}^{\circ}$  N. latitude, is approximately 378,000 square miles. East Africa, containing about 239,900 and Uganda 118,000 square miles. Owing to the great lakes which are situated in the latter Protectorate, some 15,346 square miles of this last figure must be deducted as water area—very nearly twice the size of Wales—while the two Protectorates equal, roughly, England, France and Italy combined.

Owing to their physical features the two countries may be divided into four portions—

1. The Coast strip, including the valleys of the three principal rivers, the Sabaki, the Tana, and the Juba.

This is essentially tropical. The atmosphere is always charged with a considerable amount of moisture, but the temperature is fairly equable and never very high. During the prevalence of the S.W. monsoon, residence on the coast is not unpleasant; during the hot season, however, the coast is not so attractive.

Further inland, in the scrub country and in the river valleys, the effect of the sea-breeze is lost, and the climate is hotter and less agreeable. ~~It is more common, but cannot be regarded as a great factor, owing to the sparseness of the population.~~

On the whole, while it is true that, at present, various tropical diseases prevail, conditions favour the control, if not in time the elimination, of these drawbacks.

2. **The Highlands of East Africa.** — When travelling on the railway from Mombasa, a gradual rise is encountered till an altitude of 9,000 feet above sea-level is reached on the Mau Escarpment. ~~On the whole of these uplands the climate is excellent, healthy, and invigorating.~~ Although the sun is fairly strong in the middle of the day, ordinary European clothing can be worn all the year round, and the nights are cold enough to render the use of two or more blankets indispensable.

3. **The District round Lake Victoria.** — From the highlands a somewhat rapid descent is made to the depression in which lies Lake Victoria. This is 3,726 feet above sea-level, and a tropical climate is again met with. It is hot, and, owing to the vicinity of high hills, thunder-storms are of frequent occurrence. The climatic conditions are less favourable, and fever is common.

## UGANDA.

4. Uganda, topographically considered, consists of numerous hills, the intervening valleys being more or less swamps. The climate of the whole Protectorate, with the exception of Goro and Ankoie in the Western Province—the former dominated by Mount Ruwenzori, 16,600 feet high—is tropical, and varies but little. The two exceptions mentioned resemble the highlands of East Africa in their climatic conditions, are cool, sometimes distinctly cold, and are healthy.

Probably the most outstanding feature of Uganda after the great Nyanza basin, is the River Nile. This, issuing from the Victoria Nyanza at Jinja, runs down to Gondokoro, the northern frontier post where the Protectorate meets the Anglo-Soudan boundary. Here it is only some 1,500 feet above sea-level. From Gondokoro the river pursues its course for 3,370 miles to the Mediterranean Sea.

In Uganda it is usually hot during the day, but being at an elevation of, roughly, from 4,000 to 5,000 feet above sea level, the nights are always cool and agreeable, except in the White Nile valley.

As might be expected with so many swamps, there is a certain amount of malarial fever; the type, however, is not severe, and with ordinary precautions it is possible to avoid it to a great extent.

During recent years sleeping sickness has prevailed in certain districts among the natives; this disease can with care also be avoided by the European.

Generally speaking, the climate of East Africa and Uganda compares very favourably with that of most tropical countries.

The working hours vary in the two Protectorates. Mostly office hours are arranged so that meals can be partaken at the usual European times—8.30 to 12.30 and 2 to 4 at Mombasa; 9 to 4 at Nairobi. At Entebbe, 8.30 to 12 and 1.30 to 4. As a rule a day's work in East Africa is much the same as a day's work in England, but the conditions under which it is carried out are more trying.

## II.—PREPARATION AND OUTFIT IN ENGLAND.

A few years ago it was practically impossible to obtain any European goods in the country, but now-a-days, owing to the development of the Railway, most of the articles essential to the comfort and well-being of the officer can be procured at Mombasa and Nairobi, and, to a less extent, at Entebbe and Kampala. It is doubtful—unless one knows exactly what one is doing—if the trouble and labour in ordering comestibles and stores in England is not out of proportion to the saving in cost effected. The price of goods in East Africa is considerably higher than at home, the rupee (value 1/4) very nearly taking the place of the shilling. Still, it is well to remember that the country is only so far advanced, that it is not so much a case of buying what one wants as of taking what one can get. Stores bought in London will have to bear the additional cost of forwarding charges, ship's freight, custom-duty at Mombasa (10% *ad valorem*), and, if over and above the free allowance of luggage, the heavy cost of the Uganda Railway. Though buying in London will obviate the profits of the East African importer, it must be remembered that the importer, buying from the wholesale merchant, can afford to sell at a cheaper rate than he who buys from the retail dealer. On the whole, the best advice to the man who does not know, is to wait and procure his food supplies in East Africa.

### WEIGHT OF LUGGAGE

Technically, all the packages an officer takes with him are known as loads, and these should not exceed 60 lbs in weight, as off the Railway all transport is effected by native porters whose usual carrying

capacity is 40 to 45 lbs per man. Unless the officer knows definitely that he will be posted to one of the stations on the Railway line, or at any of the Lake ports, all loads should be bought and packed subject to this consideration.

### DESPATCH OF LUGGAGE.

By this is meant only the articles of furniture, personal kit, or equipment which the officer will not use on the journey across the continent or on the sea voyage, but which are intended for his use and comfort at the station to which he will be posted.

It is almost an axiom of African travel never to get separated from one's belongings, but, as most officers join their ship at one of the Mediterranean ports of departure and the charge on the continental railways for excess luggage is heavy, the question of expense alone forbids anything but a minimum of baggage accompanying the owner.

Two courses are open, either to consign the luggage direct to Mombasa or to have it despatched so as to join the passenger ship at the port of departure.

As officials are now required to book their passages by the Union Castle line only, the passenger should apply at the offices of this Company for information as to the best means of disposing of his luggage.

In the former case each package should be clearly painted with the name of the ship, owner's name and destination, Kilindini; it should also be addressed to the care of the Director of Transport or the clearing agents at Mombasa. With this is posted a letter to the clearing agent stating probable date of owner's arrival, and enclosing the invoice and value of the goods despatched so that they may be cleared from the Customs.

If, on the other hand, it is desired that the baggage should be carried in the ship by which the passenger travels, it should be forwarded to the port of departure of the passenger's ship, and each package should be painted with the name of the boat and the port of shipment, and the owner's name and address Kilindini. In addition each package should be labelled appropriately according to whether it is wanted on the voyage or not. It is always advisable for officers to attend to their personal baggage a day before the steamer arrives in Kilindini, so that when the ship is boarded, everything is ready for the transport officer.

There are several routes by which a passenger may proceed from England to Mombasa. Information may be obtained from the Crown Agents for the Colonies, 4, Whitehall Gardens, S.W., as to these ~~other lines~~, but (with a few exceptions) officers proceeding to East Africa join the steamer at Marseilles. Those officers who join their ship at one of the Mediterranean ports of departure should remember that there is a heavy charge on the continental railways for excess luggage taken with them, and they should therefore make arrangements beforehand with the shipping agents of the line by which they intend to travel to have all their heavy luggage sent on before so as to join their ship at Marseilles, Brindisi, Port Said, or wherever it may be. For this purpose all the heavy packages, if not consigned to a shipping agent to be dealt with, should, after information has been obtained from the shipping office, be collected together, and the name of the owner, his address and the ship by which he is to travel clearly painted on them, and in addition the names of the cargo boat and of the port of transshipment.

The luggage taken with the officer should consist of personal effects sufficient for the one or more nights spent in crossing the continent by railway, and for a

sea voyage of 20 days. If the officer takes this kit with him he will then be independent of any packages sent round by sea, should these by chance not arrive in time, or be consigned to the bottom of the hold previous to his arrival.

This outfit should include thin clothing for the Red Sea, a sun hat, an umbrella (for going on shore at Port Said, Aden, Djibouti, and Mombasa) and deck shoes.

All ordinary clothing worn in England should be brought, being almost a necessity, except on the coast and the Nile. A deck chair can usually be bought at the port of embarkation.

For further information see Appendix on Hints on Outfit.

There is usually no option in the choice of the time of the year in which to sail for East Africa, but it is worth remembering that (1) though the Red Sea is always hot, from January to March are the pleasantest months.

(2) The south-west monsoon sets in in ~~March~~ <sup>May</sup> and lasts up to the end of ~~October~~ <sup>September</sup>. It is very rough from Cape Guardafui southward ~~along~~ <sup>west</sup> during that time.

(3) The coast is very humid in December, January, and February. Roughly speaking, the best time for the sea voyage is from December to February.

Suitable thin clothing is an essential for comfort on board ship—flannels, white or mercerised duck ~~garments~~, crash, holland or Assam silk suits, thin flannel or ~~lemons~~ shirts, thin underclothing, etc., white deck shoes. If stationed on the coast or on the Nile these articles will all be useful.

The heat of the Red Sea is sometimes very oppressive, and the continuous perspiration renders the system very thirsty. There is no harm in drinking large



quantities of liquids, only alcohol should be taken very sparingly, if at all, and the stronger forms of spirits eschewed altogether. Probably the most grateful drink of all is a fresh lime squash.

**Arrival at Mombasa.**—The currency of the country is rupees and cents. The value of the rupee is 16 pence, 15 Rs. equals a sovereign, and there are 100 cents to the rupee. There is a pernicious system in the country of signing a "chit" for an article instead of paying for it; of this the new-comer should beware, as it lends itself to overestimating one's income.

To facilitate clearance through the Customs, officers are strongly advised, if travelling by any steamer other than a P. & O. and B. I. to have all their luggage, including heavy baggage, rifles, guns, and ammunition, labelled "Kilindini" and not Mombasa. They should bring with them a list of any of the following articles liable to duty to be produced at the Customs on arrival. This list should, if possible, show in which packages the dutiable articles are contained. Officers bringing out with them as baggage goods on bill of lading or baggage receipt, are advised to hand the papers to the Transport Officer or his representative as soon as he arrives on board, who will either arrange for obtaining the necessary Agent's Delivery Order, or put the officer in the way of receiving it.

#### LIST OF GOODS LIABLE TO IMPORT DUTY USUALLY FOUND AMONGST PASSENGER'S BAGGAGE.

Perfumery if not used

Bicycles if not used

Wine machines if not used

Scientific instruments if not for professional use of passenger

*Scientific Instruments, when forms can usually be obtained from the Ship's Purser.*

Cooking utensils.  
Cutlery, spoons, forks &c.  
Wines and Spirits (except in known quantities as unconsumed stores)  
Tobacco, except as unconsumed stores  
Cigars, except as unconsumed stores  
Cigarettes, except as unconsumed stores  
Arms and ammunition  
Provisions  
Household effects  
Piece goods  
Dress materials, made up clothing, if not for use of passenger or a member of passenger's family  
Jewellery, if not for use of passenger or a member of passenger's family  
Silver, bullion  
Tennis racquets, golf clubs &c.  
Fishing tackle  
Drugs and perfumery, except in small quantities  
Photographic materials  
Cameras if not used  
Field glasses if not used  
Telescopes if not used  
Typewriters  
Musical instruments  
Glassware  
China-ware  
Furniture  
Table linen  
Cruets  
Household linen  
Bedding  
Mirrors  
Household silverware  
Household plated ware  
Toys (except in use)  
Stationery, if quantity considerable  
Thermos flasks

The following articles of Military Officers attached to the 3rd, 4th and 5th Battalions, King's African Rifles are exempted duty free in accordance with the Foreign Office Provisional Regulation, dated December 8, 1901:—

Regulation Sam Brown Belt

Khaki haversack

Khaki lanyard for revolver

Khaki drill covers for water bottles

Load glasses in brown leather case (attached by strap, not fixed to Sam Brown Belt)

Tools and equipage

N.B.—Camp equipage consists of a tent, table, chair, bed mattress, mosquito net, tin, and ~~eighteen~~ <sup>eleven</sup> cooking utensils

1 service revolver

500 rounds of ammunition

1 service rifle

1 sporting rifle

1 shot gun

1 ~~revolver~~

For civil officers

1 shot gun

1 rifle

1 revolver

500 rounds of ammunition

Also necessary camp equipment

The newcomer usually stays at one of the Hotels and the Club. Mombasa is an old Arab town, and is infested with mosquitoes, ~~and the~~ the mosquito that conveys malarial fever. The first lesson to be learnt is that great care must be taken in the regular use of the Mosquito Curtain. The bed curtains at the hotels and Club usually leave much to be desired, but it is important that the net should be tucked all round under the mattress, leaving no openings. For further information on this and cognate points, see the chapter on Malaria, page 170.

By consulting the rainfall tables in the Appendix the kind of weather to be expected on landing can be gauged with fair accuracy. If the rains are on, it is necessary to have accessible a mackintosh, an umbrella and strong boots.

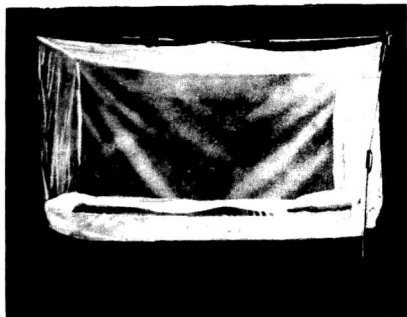
**Journey Up Country.**—Officers are informed of their destination by the Transport Officer at Mombasa; they should therefore place themselves in communication with that officer ~~as soon after landing as possible~~, when they will obtain information regarding the amount of luggage, railway tickets for self and servants, and other details. The scale laid down for all classes is given in Appendix (see page 57).

As no bedding is provided on the railway—only a lavatory and water—and as the journey to Nairobi takes 24 hours, and that to the Lake 48 hours, it is incumbent on the official to provide himself with a sleeping outfit. For this purpose the chapter on *Hints on Outfit* may be consulted. A kit bag, or travelling box containing the usual ~~travel~~ requisites, should be taken into the compartment as the journey is sometimes very dusty. If there is a lunch basket or tea basket it should also be handy, as one or two of the waits between the refreshment rooms are very long. At Nairobi there are a number of good hotels to choose from; at Kisumu there is a Dak Bungalow if the passenger for Uganda is detained. Otherwise he steps at once on board one of the Lake steamers, which are modern, and replete with every comfort. One night is spent on the voyage across to Entebbe, and the passenger is catered for on board. At Entebbe there is a hotel. For stations beyond Entebbe, as also for all out-stations off the line in East Africa Protectorate, a tent and camp outfit are necessary.

(1) The simplest and one of the chief means of protection is the mosquito bed curtain.

Even the smallest holes in the net must be promptly mended, and the bottom of the net must be properly tucked in between the canvas of the bedstead and the mattress or blanket upon which the sleeper will lie. The practice, usual in some places, of having the net weighted at the bottom and allowing its bottom edge to lie on the floor is a bad one, because mosquitoes often shelter in the day under the bed, and when the net is turned down they are inside it and attack the sleeper. Mosquito rods forming a frame above should be fitted to every bed, **the net being slung inside the framework, and not stretched over the outside of it.** (See illustration.) During the day, when the net is not required, the bottom part should be roughly twisted together and laid over the top of the net; ~~shortly before sunset~~ the net should be lowered and tucked in as described. It is no uncommon thing to see a man who imagines that he is getting the benefit of a mosquito net when his net contains one or more holes or is allowed to hang round the bed at its lower part so that it is liable to be caught up on a chair or pair of boots, leaving ample space for mosquitoes to get in. A common habit of native servants or "boys," only mentioned to be condemned, is to keep one of the long sides of the net raised during the day, thus providing a convenient shelter inside the net for any wandering mosquito. Nor is it a good plan to have the net divided up the middle of one side to allow easy access to the bed. In untucking one flap to get in, the other is sure to be disarranged; and if both flaps are not tautly replaced, openings are left.

For camp life, probably the **most** useful and economical bed is the "X Compactum." The framework of this should be slotted at the four corners to receive four brass rods. These rods are



MOSQUITO NET

IN POSITION ON CAMP BED, TUCKED IN BETWEEN THE MATTRESS AND THE CANVAS OF THE BED.

*The most practical of Mosquito Bed Curtains.*

\* WELL  
BEFORE  
SUNSET

pierced at their tops, and a stout blind cord threaded through and drawn tight. On to this superstructure the net is slung inside the rolls. Very little care is necessary to ensure the net being properly tucked in under the mattress. To keep the rods as wide apart as necessary when the cord is taut, it is a good plan to strut them asunder with a notched reed or stick. In a camp bed, owing to its narrowness, there is a risk to the occupant of being in contact with the sides of the net, thus affording the mosquitoes ample opportunity of feeding on the sleeper by biting through it. This risk may be minimised to a certain extent by having the mattress made slightly longer and wider than the actual size of the bed. It is also a good plan to have the lower part of the net, that which is tucked under the mattress and a width of 6 inches above this, made of stout calico or linen cloth.

When travelling in the Nile district most officers provide themselves with a portable mosquito curtain to sit under and dine in. The most convenient size for this net is an 8 foot cube, to which is added about 3 feet of cotton sheeting to lie on the ground. On this edging of sheeting chop-boxes, logs, stones, etc., can be placed to keep it from blowing about. The roof of the compartment should also be of cotton sheeting, and round its edges tapes are sewn to fix it to its supports. These are bamboos or slender poles long enough to allow of their being firmly planted in the ground. As in the case of the camp bed the tops of the posts may be slotted to receive a stout cord, or, preferably, may be strutted apart by other thin poles. There should be no door or opening in the tent. Dinner is served by one boy remaining inside to whom the food is passed carefully underneath it by another boy outside. Such a net cannot stand much wind or rain, but neither can the mosquitoes, and so the conditions balance. In stations where there are no mosquito-protected rooms pro-

x The absence of a ceiling should be provided }  
for as already indicated.

20

vided by Government, this class of net comes in very useful. In the evening mosquito boots should be worn with the trousers tucked inside.

In stations, an officer can always either render his house mosquito-protected or at all events very greatly diminish the risks of being bitten by infected mosquitoes. This can be done temporarily and quickly by fastening muslin or mosquito netting over the window openings and doorways, and also, if the house is of the usual wattle and daub type, by fixing muslin or calico from top to bottom of the walls as a ceiling, as between them and roof there is generally an open space. This method is not so shift, as the netting or muslin soon gets in it, and cannot long withstand strong

A more satisfactory and permanent method is to fit doors and windows with small-meshed wire gauze. For the windows this can be done on a removable framework held in position by cords. For the doors the framework should be hinged to the wall, and must be accurately fitted. Selected houses have been objected to on the ground that they are stuffy; but stuffiness is avoided by making the window openings sufficiently large. A mosquito-protected house can be made very comfortable when the building is a suitable one.

~~Before the doors and windows should be opened, they should be done soon after sunrise, when the mosquitoes will quit the house for the open air, in large numbers are given the opportunity.~~ While the windows are open the rooms should be swept

and all hangings such as clothes, curtains, etc., should be shaken, special attention being given to the under surfaces of beds, tables, chairs, the spaces behind cupboards and similar articles of furniture, and all dark corners, for the mosquito likes the dark and when the light comes will seek the shade of any suitable spot where he may remain undisturbed till nightfall.

Mosquito protected houses become veritable mosquito traps unless systematically maintained ~~both~~ in respect of repair or regards structure and watchfulness on the part of their occupants. Possible routes of invasion should be always looked for and (chances) intruding mosquitoes destroyed. Unless the dweller is constantly alive to the necessity of maintaining his health and comfort he will soon discover that a defectively constructed and maintained mosquito protected house becomes uninhabitable and a source of danger. With properly protected and maintained dwellings it should not be necessary to open the gauze window and door frames to ensure ventilation.

~~X. Mosquitoes protected houses become veritable mosquito traps unless systematically aired and searched for chance intruders. They should be closed up half an hour before sunset and after that time opened as little as possible.~~

2. **Destruction of Mosquitoes.**—This of course refers only to stations and permanent residences, and was but seldom applied to temporary camps. The measures taken are not only against mosquitoes but their breeding places. To do this rationally some knowledge of their life history and habits is essential.

A mosquito has the same kind of life history as a butterfly. A female will lay about 250 or more at a time, on or close to water. In a varying number of days there is hatched out a small creature called the "larva" which swims about in the water, occasionally wriggling up to the surface to breathe. This stage corresponds to the silkworm or caterpillar. In about a fortnight the larva turns into a shrimp-like creature, the "pupa," which moves with great rapidity through the water by means of its curved thin tail. The pupa breathes by coming to the surface of the water as the larva did. This stage corresponds to the chrysalis stage of the silkworm or butterfly. From the pupa, in the course of two or three days, the "adult" or mature insect—the mosquito—emerges.

There are several kinds of mosquito, which differ from one another in appearance and habits. Although only one kind (so far as has been proved) carries the germs of malaria, it is well to wage war against them all, as there are several kinds which can carry some disease or other to man or animals.

~~There are two species of mosquito very common in the Africa and Uganda Protectorates, the Gambia and the kind most frequently seen and heard, and the Anopheles which carries the malarial parasite.~~



The difference between these two are as follows:—

	<i>Anopheles</i>	<i>Culex</i>
Eggs.	Lying flat and scattered on water, almost always in natural pools.	Floating in minute boat-shaped masses on water anywhere, in water-tanks, tins, cups, etc., as well as natural water.
Larvæ.	Lying flat when at the surface of the water.	Hanging down at an angle from the surface of the water.
Pupæ	Similar in both species.	
Imagæ.	Has proboscis almost in line with body. Back straight out. Its buzz is a high interrupted note. When resting on a flat surface, the body lies at an angle to the surface.	Has proboscis almost at right angles to body. Back hunched up. Its buzz is a continuous singing note. When resting on a flat surface, the body lies parallel to that surface.

In the males, the antennæ are bushy or feathery in both kinds. In the females there are two small processes, called the palps, short in the *Culex*, long in the *Anopheles*. The common *Anopheles* of these two Protectorates has short dark bars or spots on the front edges of its wings, and is a very small slender dark-coloured insect.

There are many other kinds of mosquito, only one family of which need be mentioned here, that of the *Stegomyia*, as it is the agency by which yellow fever is transmitted from the sick to the healthy. This family is easily recognised, being markedly striped black and white; it is often called the "Tiger" mosquito. In shape and general appearance it resembles *Culex*.

Everyone going to East Africa should make it his business to learn how to distinguish between ~~these~~ three families: *Anopheles*, *Culex* and *Stegomyia*, and *Anopheles*, *Culex*.

how to find and destroy them and their breeding places. Mosquitoes are as numerous as the sand on the sea-shore, and unless everyone joins in making war on them, isolated efforts in a station become but an endless labour.

The importance of destroying all mosquitoes cannot be too strongly emphasised. From the life-history of the mosquito, already described, it will be seen that the insect can be most easily attacked in the larva or pupa stage. But as prevention is better than cure, as little water as possible should be permitted to stand round dwelling houses, so as not to provide breeding places for the pest.

Any small pools that cannot be drained or filled in, should have a little cheap kerosene oil poured on their surfaces once a week. The oil, getting into the breathing apparatus of the larvæ, kills them.

Water-tanks and the like must be carefully looked after; the lids scarcely ever fit with sufficient exactness to prevent mosquitoes from entering and breeding. Over the lids it is easy to fit canvas bags filled with sand, one of the best ways of sealing up the badly-fitting cover of an iron tank. Water barrels should have a sheet of canvas placed over the top and nailed to the staves all round. The hole for the down pipe entering the receptacle, should also be attended to, being closed by a sand bag collar, and, when not in use, by a piece of wire gauze, canvas, sand-bag or other means. *Inverted bottles should not be used as flower bed borders.*

The edges of any water course, ditch or drain near a house should be carefully cut and trimmed so as to prevent the retention of any stagnant pools which might harbour mosquitoes and permit them to breed. Gutters should be regularly swept out and cleansed, as it is found that *Anopheles* will shelter and even breed in water, which is allowed to collect in them.

It is astonishing how soon a mosquito, and ~~particularly~~ ~~Culex~~ makes use of any water it may find to breed in.

It is necessary to stand each leg of a cupboard or meat-safe, or table, in, or on which such articles as jam, sugar, and the like are kept, in small tins of water in order to prevent the food from being infested by ~~any~~ ~~Culex~~ will breed in these tins if the water is not regularly changed, and some poison, like kerosene or carbolic, added. Again, ~~Culex~~ will breed in the snail-cups of water used to keep a wet bulb thermometer moist, or in a water jug left in quarters which has been vacated for a short time, or in any receptacle containing water and not regularly emptied. If the proper precautions are not attended to, an officer returning from travelling will often find his house full of mosquitoes.

It is, however, the ~~most~~ mosquito which is the more serious danger. Several species common to both Protectorates, of these, as already mentioned, breed in pools of water formed naturally. Artificial pools of water can, however, after a time, assume the character of natural pools—vegetation may grow around them simulating natural conditions. If bamboo cut midway between two joints is stuck in the ground to form fences, etc., the top of the stick makes a little cup, which will hold water and allow the *Anopheles* to breed. It might be thought that such a small collection of water would dry up quickly; but in the rains grass and other vegetation is apt to grow sufficiently high to protect the cup of the fence from the sun, and also from heavy downpours of rain which would wash out the larvæ. Bananas and some of the live fences used in the country to surround compounds form admirable breeding places for mosquitoes, in the little cups formed at the junction of the leaf with the stem.

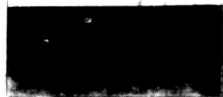


ANOPHELES (FEMALE)  
ANOPHELINE



CULEX (FEMALE)  
CULICINE

## MOSQUITOES.



PUPA OF EITHER SPECIES ON RIGHT  
WHICH HAS EMERGED FROM SKIN OF  
LARVA ON LEFT



CULICINE (ON LEFT) AND ANOPHELES (ON RIGHT)  
LARVÆ IN WATER

Bananas near a house should be viewed with suspicion. Bottles of water for striking cuttings in for the garden are another fruitful source of mischief and mosquitoes.

These are only a few examples of how water may collect, and in time become a breeding-place for mosquitoes. Everyone who looks about carefully will find many others. For example, the roof-guttering round a bungalow may sag between two supports, and form a cavity where water and debris collect. A large leaf, which, in the dry season has had its edges curled up, like leaves in autumn in England, may be so lying, that when the rains come, it will hold the water and form a breeding-place.

Puddles, if exposed, may be dried up by the direct rays of the sun, or washed out by a heavy downpour of rain; or the concussion of the drops of rain on the surface may seriously damage the larvæ and pupæ. Larvæ can, however, defy both sun and rain for a little time by existing in the damp mud at the bottom of a puddle. It is not the exposed pools that are the difficulty. They can be seen and it is only folly not to deal with them. The trouble is in finding the out-of-the-way collections of water near fences, roots, hollows of trees, old drains, discarded tins and bottles, hidden in the long grass. Accordingly, all grass and vegetation should be cleared for at least sixty yards round the dwelling-house, and grass and bush round this kept cut down for as great a distance as possible.

Clearing grass and bush, however, is not sufficient. In a new malarious station it is necessary to have immediate protection against mosquitoes. A portable mosquito outfit may be used.

Empty tins and bottles should be buried in the bush or ground. Water should be kept in covered water and covered for mosquito.

Finally, any site selected for the European's residence should be on high land, at least a quarter, and preferably a half mile distant from any native huts without any resort of native children in the neighbourhood; and, when possible, not closely surrounded by bush. Where this is thick, the levels cannot be seen, and it is not easy to decide which is the highest ground; the best plan is to choose the place which seems driest in the height of the rainy season. If the highest land is in close proximity to a swamp, it is wiser to choose a spot with a wide clearing between it and the swamp. The ideal site is on a moderate slope of a hill well away from any swamp, and free from bush.

An important fact, always to be borne in mind in travelling or in selecting a site for a house, is that the principal source from which the mosquito obtains the malarial parasite is native children. Practically all native children may be regarded as infected with malaria, and the neighbourhood of native huts in a country in which malaria exists should therefore be avoided for building or camping.

**3. Prophylactic doses of Quinine.**—Many authorities are convinced of the utility of the practice of taking small routine doses of quinine during residence in a malarious country. This procedure has no very definite value, but continual reckless dosing of oneself with quinine is to be deprecated. In the majority of the East African stations, and in Uganda, this practice is desirable—but only as an adjunct to the other measures already described. Where it is made a routine of, one of the following systems may be followed—

System I.—Take five grains of quinine daily.\*

System II.—Take ten grains of quinine every Wednesday and Sunday.

\*This is the system most strongly recommended.

**System III.**—Take fifteen grains of quinine on the 10th and 11th, the 20th and 21st, and 30th and 31st, or last two days in each month. Five grains may be taken after each of the main meals.

Quinine is put up in the form of a powder, either dry, or dissolved in a mixture, or enclosed in a cachet, or in the compressed form as a tabloid, or as a pill. There are many preparations of quinine, the best of them all being the hydrochloride, or the bi-hydrochloride, containing the greatest percentage of the alkaloid, and the most readily soluble in water. Equinine or tasteless quinine is the pleasantest to take and may be used instead of the former. It is, however, by far the most expensive, while the sulphate is the cheapest and most used. The most certain method of administering quinine is by dissolving the powder in water; in the case of the sulphate and some of the other preparations a little dilute acid is advisable to aid solution. The compressed form of the drug should never be swallowed whole. It should be wrapped up in paper, crushed and shaken into a half tumblerful of water. A little lime juice can be added to the water. Officers are especially warned against the uselessness of swallowing tabloids and pills dry.

In the healthy person solution is aided by the natural secretion of the stomach, but in others, especially during fever, the secretions are apt to be disordered, making solution, and therefore absorption, much more difficult. Compressed forms of quinine are therefore often practically without effect if swallowed whole. They should be crushed and shaken up in half a tumblerful of water. A little lime juice added to the water or taken immediately after, assists solution and absorption. Quinine powder in water, cachets or gelatine capsules, is easily taken and usually efficient.

In a tropical country tablets and pills tend to become very hard after a time and absorption is very slow even in a healthy stomach. Sugar-coated pills require a still longer time to be acted on in the stomach, and should never be included in a medicine chest.

### CURE.

Directions for the treatment of malarial fever, when no doctor is available, will be found in the Appendix (see page 65).

**Sleeping Sickness** is a chronic and, so far as is known, an incurable disease, with a latent or incubation period which may apparently extend in some cases to several years.

The infection is by an organism called *Trypanosoma Gambiense*, which is conveyed to man through the bite of an infected tsetse fly, the *Glossina Palpatis*. The *Glossina Moritans* also carries the infection, but, so far, it is unknown in the East Africa Protectorate and only found in a part of Uganda. The disease, therefore, is infectious only in localities where the infected fly exists. Owing to the long period in which the organism may be dormant in the blood of an infected person, cases may crop up in any part of the world, but there can be no fear of other cases arising therefrom where the fly above mentioned is not found.

Under natural conditions the disease is usually carried from place to place by man, and from person to person by the fly; each of these agents, even though infected, if kept from contact with each other, is harmless. In these respects it is analogous with malaria, tick-fever, and other indirectly infectious diseases.

Sleeping-sickness begins with fever, generally of a low intermittent type in natives, but often very severe in Europeans. Soon after there occurs general slight glandular swelling, especially noticeable in the neck,

and tongue-tremor, with often some slight mental change or aberration. There may then be a stage of mental excitement, with or without convulsions or mania, during which the disease occasionally proves fatal, but more often goes gradually on with slowly increasing weakness of mind and body.

At length there is general muscular tremor and weakness, with increasing lethargy, while the appetite may still be normal or even excessive. Towards the end there is a bed-ridden condition with more or less complete torpor, unless, as sometimes happens, the patient is carried off, more or less suddenly, by convulsions or by some intercurrent disease.

There is also progressive emaciation, but this is proportional rather to the duration than to the stage of the illness, and may be altogether absent in the more rapid cases.

No age, sex, or race is immune; the apparent relative immunity of Europeans is due entirely to the difference of their habits and occupations, especially as regards the more complete clothing of the body, from those of the natives. It is a mistake to suppose, however, that the fly cannot bite through thin clothing, though it much prefers to feed on the bare skin.

The haunts of *Glossina Palpatis* are restricted to narrow strips or areas, generally quite circumscribed, along the margins of more or less open water, where the bank is heavily shaded by bush, or, in the case of very narrow streams, even high grass. It is not usually found on swampy rivers, or on banks lined with wide belts of luxuriant swamp vegetation, such as papyrus. Its natural haunt is probably restricted to a few yards from the water side. Its range is, however, sometimes much wider, since it will follow its intended victims some hundreds of yards through bush and forest, and afterwards settle in the shade to digest its meal. In a

few localities it has been found half a mile or more from any known water. It will come off to boats passing some 20 or 30 yards from the shore, not often to a greater distance; but it may be carried a very long way by boats in which it can find shade to settle in after feeding.

Though a shade-loving insect, the fly is most active in bright sunny weather, and is less active, even on sunny days, before 7 or 8 a.m. and after 4.30 p.m.

*Glossina Morsitans* resembles *Glossina Palpalis* in many respects, but it prefers open country and has been found as much as two miles away from water.

It is probable that the percentage of infected flies in any given area is very small indeed, possibly not one in a thousand. In the past Europeans have been constantly exposed to their attacks, though in a far less degree than the natives, and yet the vast majority of those bitten have escaped infection. Further, even where the disease has been most intense, and small native communities have been practically wiped out, some few of them, though they must have been exposed to the infection for months and months from swarms of flies, have escaped.

The favourite sites for the fly to settle on and bite are the back of the knee and the back of the neck under the shade of the helmet; therefore:—

(F) It is the height of folly to wear shorts; the officer should expose as little as possible of his bare skin.

~~(G) Where the fly is numerous, some form of webberchief should be worn.~~

The following precautions may also with advantage be taken by Europeans:—

(1) Avoid such amusements or occupations as boating, fishing, or shooting close to shaded banks where the fly is known to exist.

(2) Always camp 200 to 300 yards away from infested water-sides, in as clear a space as can be found, and never near infected villages.

(3) Do anything which has to be done near or on the water in the fly range either in the early morning or in the late afternoon when the fly is less active.

(4) In boat-travelling, keep at least 50 yards from the shore.

Officers should make themselves thoroughly acquainted with the appearance of the *Glossina Palpalis* and the *Glossina Morsitans*. Other species of tsetse flies are often found at much greater distance from water, and frequently attack human beings both before daylight and after nightfall.

*Glossina Palpalis* is of a dark-grey colour above and a lighter grey beneath, many of them being in their general appearance almost black. Sometimes, especially on their legs, there is a brownish tint, but the lightest coloured of them never approach the general yellowish-brown colouring of the other species, nor the deep dusky brown of *Glossina Fusca* and *Glossina Longipennis*, which last are also sufficiently distinguished by their large size.

*Glossina Palpalis* is about half an inch long from the front of the head to the tips of the closed wings, which project almost an eighth of an inch beyond the body. In common with all tsetse flies it closes its wings like a pair of scissors straight along the back, and the proboscis sticks straight forward like a bowsprit. During feeding the proboscis is bent at a right angle, but the palpi, between which the proboscis is hidden while not in use, still project straight out, so that it requires close observation to tell when feeding is actually taking place. The bite of this fly is felt by some as a sharp prick, while others do not feel it at all, but a great deal depends on where it bites, since the human skin varies



much in sensitiveness even over a small area, such as the back of the hand. As a rule the bite leaves no irritation.

The tsetse flies have a rapid flight and settle in a characteristic manner, very abruptly, like a pellet of mud thrown at a wall, and yet very gently. There is no hovering in the air, and they seldom crawl about on any surface on which they have settled. Their buzz is a continuous uninterrupted note. When disturbed they make a swift curving swoop directly to some other spot, and they will always settle by preference in shadow, even to feed, on the side opposite to the sun, for instance, or on such places as under the chin, beneath the rim of a helmet, or under the knees when one is sitting down.

There has been, hitherto, as results show, but little danger of infection for Europeans, and there will probably be less in the future, since the danger is now well known and steps can be taken to avoid it.

Whether sleeping-sickness has been recently introduced into the Uganda Protectorate, or whether it has been travelling in epidemic waves across Africa from the West Coast to the Great Lakes and back again at intervals, perhaps for centuries, leaving endemic centres along its routes, we can never know. A more important point is whether, having been introduced into such fruitful soil as the shores of Lakes Victoria and Albert, and the banks of the Upper Nile, it can ever be entirely eradicated. Unfortunately the balance of probability seems against it. Moreover, with the increase of facilities and frequency of communication, epidemic outbreaks are liable to occur more often than heretofore.

The outlook for the future in this respect is not, however, nearly so gloomy as these forecasts would seem to indicate, for probably there are few places where such disastrous epidemics can occur as that on the Victoria Nyanza, and there is good reason to hope that with the



GLOSSINA PALPALIS

ENLARGED FIVE TIMES. CARRIER OF SLEEPING SICKNESS. NOTE THE DARK COLORATION OF THE BODY, AND THE VENTRAL PALE PATCH ON THE ABDOMEN, AND THE FIVE BLACK SPOTS ON THE HINDMOST PAIR OF LEGS. THE ABDOMEN IS MORE ROUNDED THAN IT APPEARS IN THE FRONT. THE PROBOSCIS IS BEST ILLUSTRATED IN THE PICTURE THAT PRECEDES THIS.

Also insert a picture of Glossina  
Morsitans with short description

After I add "It is certain that, as a result of  
the stringent preventive measures now taken in  
Uganda, and the scientific combat which is being  
waged, a large reduction in mortality from this  
disease is evidenced."

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knowledge of the disease which we now possess, any future outbreak could be to a very large extent controlled, especially if the natives can be persuaded to take only a little interest in their own preservation. X

The following is a rough table of distinctions between the common tsetse flies:—

(1) *Gl. Palpalis*.—Dark in colour, as described above.

(2) *Gl. Pallidipes*.—About the same size as *Palpalis*, colour brownish, legs pale with no dark markings except on the hindermost toes.

(3) *Gl. Mersitans*.—Much the same general colouration as *Pallidipes*, rather smaller, has a black ring or "bracelet" on the front feet.

(4) *Gl. Tachinoides*.—Differs from Nos. 2 and 3 in being smaller, paler and yellower, has no dark bracelet.

(5) *Gl. Fusca*.—Much larger than above, general colour dusky brown.

(6) *Gl. Longipennis*.—Almost as large as *Fusca*, also has four dark spots on back of thorax.

The rôle that these tsetse flies, other biting insects and ticks, play in the transmission of diseases to man and animals is so wide spreading and far reaching in its consequences that it is of the utmost importance that every officer should aid as far as he possibly can in collecting specimens in his district, noting localities, habitat, &c., and forwarding specimens for identification to the Entomologist or other officer appointed for that purpose.

#### OTHER DISEASES.

**Tick Fever.** (Also known as Spirillum fever).

~~This is a disease mostly affecting certain districts in Uganda.~~ Its symptoms are practically the same as those of malarial fever, except that they are

*This disease though mostly affecting certain districts in Uganda is not unknown in British East Africa.*

usually more severe than in ordinary malaria and they begin and end more suddenly. There is a high temperature, which persists for a variable number of days, then suddenly drops to normal or below normal and the patient feels quite convalescent.

This period of rest lasts several days, when suddenly, without warning, there is a relapse, and all the whole train of symptoms set in again. This alternate relapse and recovery may run into weeks and even months, generally with longer and longer intervals, before the patient finally recovers.

The cause of the disease is the bite of an infected tick—the *Ornithodoros Moubata*—which transmits the *Spirillum* parasite into the circulation of the victim. No cure is known as yet for this disease, so that all that can be done is to avoid being bitten.

The tick is not often seen, unless looked for, being mostly a nocturnal feeder. Its habitat is in the crannies of an old house, in the cracks of a mud floor, the crevices in the walls of a wattle and daub house, the dirty floor of a native hut, or in a thatched roof. A not uncommon breeding place for it is in village or house refuse heaps.

Travelling through or residing in a notorious tick-fever district the following precautions should be observed:—

~~(1) In a wattle and daub house always sleep well away from (the fissures in) the wall, and have the bedding raised off the ground.~~

(2) When blankets and bedding are being hung out to be aired see that they do not sweep the ground.

(3) Avoid old camping grounds as far as possible and do not allow the porters to occupy old native huts or ~~shelters~~ shelters, or utilise old grass either for ~~camping~~.

\* Fresh vegetables should always be thoroughly washed in clean water prior to being cooked. Lettuce, tomatoes, and such other vegetables as are customarily eaten uncooked are best avoided unless they come from an approved source. In fact, the rule of allowing nothing but hot food to be served at table should be followed. 127

† The invasion of the skin by the prolegs of female chigger fleas causes itching, irritation, and, finally, painful inflammation and suppuration. The removal of the parasite must be at once performed with a clean needle and a small ball and then dressed with weak Pot. Permang. or other antiseptic solution.

The toes and feet are generally attacked. Prevention can be exercised by wearing long boots in places likely to be infected, e.g. old camping grounds, native huts, fowl yards, etc.

It is advisable never to stand or walk bare-footed in the house. The floors of all houses should be frequently washed with disinfectant solution.

\* The hands of the operator as well as the invaded part or parts should be carefully cleansed before the removal of the parasite is undertaken.

(4) An easily made poison for all insect pests for use on a mud floor is a strong decoction of native tobacco, regularly applied. It is more important, however, to fill in all cracks as they occur and to apply a coating of cowdung at regular intervals.

(5) It is also advisable to have bedding packed in a tin box, so that ticks cannot adhere to it, as native porters often carry the tick in their clothing.

**Dysentery.**—May be avoided by drinking water that has been boiled, and seeing that all soups, tea, coffee, etc., have been ~~made~~ boiled with boiling water. ~~Fresh vegetables should always be thoroughly washed before use with water that has been boiled, particularly salad and green stuff eaten raw.~~

**Jiggers (Chigoes).**—Are most plentiful in sandy places, or where there is dry powdery red soil. It is a place infection, introduced by animal or man. They swarm in old houses that have been left unoccupied for some time, or in new houses from which the native workmen have just departed.

They are sand fleas, the female of which burrows into the skin to hatch out her eggs. ~~In a jigger country never put the naked foot to the ground, if the ordinary walking boots are not put on at once on being ashore, or if high tops or camel riding boots will be worn, not low slippers.~~

When there is any feeling of itching or irritation about the feet the native servant should be made to examine the feet, and, if necessary, extract the insect. Native boys are usually very skilful in dealing with a jigger that has gained an entrance. ✕

**Worms.**—Can mostly be avoided by careful attention to the proper cooking of all food, and by boiling all drinking water. In Mozambasa, the *Ancylostoma* and on the Nile the Guinea worm are very common, and the tape-worm everywhere.

**ENTERIC FEVER.** - Officials are strongly advised to have both ~~themselves~~ and their families inoculated as a protective measure in respect of this disease prior to coming to these Protectorates unless previously immunised. Enteric varies in its course and severity and persons who find themselves overtaken by a feeling of general ill-being not yielding to the administration of quinine, diarrhoea or continued constipation should invariably consult the nearest Medical Officer in ~~charge~~ thereof.

A ~~Departmental~~ Circular has been issued concerning Enteric Fever ~~and~~ a copy of the same has been inserted in the present edition of this Handbook for general guidance.

The greatest care and attention should constantly be maintained in regard to all matters relating to food and the cleanliness of surroundings.

Food and milk should be carefully protected from flies and all milk and drinking water boiled before use. The latrines both of employers or servants should be protected from rain and flies, kept in a scrupulously clean condition, and their contents removed daily. Garbage should not be allowed to accumulate. Servants' quarters should be regularly inspected and their use as lodging houses prohibited. House attendants should wash daily, and, in addition, before waiting at table or preparing food. Sickness occurring among servants should be invariably reported and investigated. Uncooked foods such as salads are best avoided unless their source is an approved one - in fact it would be well to adopt the practice of allowing nothing but hot food to be served at table. Casual defecation and urination in the neighbourhood of residences should be prohibited.

**SMALLPOX.** - Persons about to come to these countries should cause themselves to be vaccinated prior to their departure from home. They should also take care that servants engaged by them in the Protectorates are also vaccinated unless previously immunised.

Copies of the following Departmental Circulars and pamphlets are inserted hereafter ~~viz~~:- Enteric Fever, Mosquito Prevention, Rat Destruction, Cholera, Epidemic Cerebro-Spinal Meningitis, Rabies, Plague, and Hints on the Sanitary care of Outstations.

**Skin Diseases.**—Itch, "dhole's itch," etc., are common.

#### IV.—PERSONAL HYGIENE.

A sun-helmet should always be worn between the hours of dawn and 5 p.m. This applies to the length and breadth of the two Protectorates. In the hotter districts an umbrella is a distinct advantage. *the use of an umbrella and coloured glasses is distinctly*

The nature of an officer's duties often involves many risks, but there is no object in being foolhardy in incurring unnecessary wettings, running the chance of chills and consequent lowering of the system, thus rendering the body more susceptible to the attacks of parasites. At the earliest possible opportunity, wet clothing should always be exchanged for dry.

Protect the body by suitable clothing both against sun and wind. It is of supreme importance to have good underclothing, and nothing is more satisfactory than thin flannel shirts of good quality. On the march, the shirt worn should be of a thicker quality as it both protects against the sun, and minimizes the risks of chills should one have preceded the porters and be compelled to await their arrival at the camping ground.

Always remember that, however mitigated the climatic conditions may seem to be, the new-comer is dwelling under the direct rays of an equatorial sun; invisible rays are probably more harmful than the so-called light rays. He should not, therefore, exempt himself too much at first, until acclimatized in East Africa. Most new-comers invariably do, led astray by the almost English summer days; and overtax their strength in consequence.



A regular amount of exercise should always be taken. Where cricket, football, tennis, lawn tennis, hockey, polo, riding or shooting are not available—and it is mostly at the bigger centres where these recreations are obtainable—a brisk walk should be undertaken daily. Clubs and dumbbells are also useful. And as in most outstations the daily round of walks is not very exhilarating, some sort of collecting hobby or gardening should be encouraged.

One of the greatest luxuries in the tropics is the hot bath, taken either in the evening, or in the morning. Cold baths should never be taken. Experience has shown that after a certain length of residence in a tropical country, more risk is run of getting a chill by indulging in a cold water tub, than by the habitual use of a hot bath. Hot baths are both stimulating and refreshing.

as expected, however, an enhancement in the cost of living is observable in townships whose populations are increasing 129

## V.—FOOD AND DRINK.

East Africa and Uganda are both fortunate in this respect, that food is not only plentiful and easily obtainable, but is in the principal centres of fair quality.

At most of the stations there is a small native market where local produce can be purchased, at the bigger centres there are recognized butcher's shops and vegetable markets. Mention of the supplies obtainable at the following places will give a fair idea of what may be purchased in the Protectorates.

**Mombasa.**—Mutton, beef, and goat, fowls, fish, and prawns of the most excellent eating; fresh milk not very readily obtainable; butter, potatoes, and English vegetables imported from up-country; yams, cassava, native beans, pumpkins, spinach, etc.; oranges, guavas, papaws, bananas, pineapples, custard apples, pomegranates, limes, and sweet limes, etc.

**Nairobi.** Mutton, beef, pork, English fowls and occasionally ducks and turkeys; eggs, milk, butter, and cheese, English vegetables, all of splendid quality; apples, plums, apricots, etc., are also grown. Besides native produce, fish and coast fruits are also imported.

**Kisumu.** The same as Entebbe, but to a less degree, being a smaller place and less fertile.

**Entebbe.**—Beef, mutton, goat, occasionally pork, all of good quality; most of the English vegetables and many native dishes; a few oranges and limes, bananas, papaws, guavas, pineapples, etc. The lake teems with fish, but fishing is prohibited owing to precautions taken to prevent the spread of sleeping sickness.

**The Nile Valley.**—This is probably the most starved district in the two Protectorates, both from the native and the European point of view. It is difficult to buy fowls or goats, and beef is unknown. Though the Nile contains some of the best eating freshwater fish outside the temperate zone, it is almost impossible to buy any from the natives except in a half putrid condition. The only native vegetables procurable are the inevitable sweet potatoes, maize, millet, and native spinach, beans, and an occasional pumpkin. Small traders import English potatoes and rice and onions. Some of the stations endeavour to keep a garden going, but it requires much fostering care. Fruit is practically unobtainable. A supply of tinned provisions on the Nile is a necessity, and the officer on being posted to a Nile station, should endeavour to take with him a supply of fowls, and a few sheep and goats.

**Out-stations** generally possess one or two Indian traders from whom things can be bought at a price. With a little trouble one can procure fowls, mutton, or goat, and the ordinary run of native produce, but rarely beef.

**Drink.** ~~With regard to drink, very few of the stations have a satisfactory water supply. Most of the drinking water in the country should be both boiled and filtered before use, especially while on the march. It is important to use a filter of the best kind, and to have it cleaned and examined at least once a month. The best filters to use are the Pasteur or Pasteur-Chamberland. The filtering should not be left to the servant, and Europeans should always make certain that the water has actually been boiled. The vessel containing the boiled drinking water should be covered up and placed to cool, resting on a piece of wood in a soup-plate of water so as to keep it free from ants; it should be periodically scalded with clean boiling water under the personal supervision of the owner.~~

Water, if muddy, should first be strained through a piece of fine linen or a handkerchief. If it is still thick and difficult to filter, it can be placed in a large basin or bucket, and a little alum added—6 grains to the gallon being the usual quantity. The alum precipitates all the muddy particles which sink to the bottom in about five or six hours. It must be distinctly understood, however, that the only thing that kills the microscopic germs of contaminated water and the eggs of the various intestinal worms is boiling the water.

Alcoholic drinks of the more ordinary kinds can be obtained at one or other of the centres. If taken at all, they should be consumed only at meals, and preferably only at the evening repast. Heavy drinkers should not go to East Africa or Uganda; moderate drinkers should be very moderate there and total abstainers should remain so.

## VI.—TRAVELLING.

Means of progression throughout the country are rapidly improving each year, and, up country, horses and mules are obtainable. At certain stations in fly-free areas mules are provided for the use of officers proceeding on duty. The local price for mules at Nairobi varies from Rs. 200 to Rs. 250; horses from Rs. 400 to Rs. 600. A list of the tent and camp equipment provided by the Government is given in Appendix A. In addition, the officer should furnish himself with the following articles:—

A lantern, Wolsley valise, bath, wash-hand stand, cutlery, tableware, cook's box, buckets, deck chair, one or two tin uniform cases, etc. For further information on this point see Appendix "Hints on Outfit."

As said before, loads should not exceed 60 lbs. in weight; but with raw natives not accustomed to carrying loads it may be necessary to reduce the packages, say 45 lbs. at the most.

In starting a safari the first thing to do is to have all the loads laid out in a line. The porters are then chosen according to their strength, and placed beside their loads. The strongest men should always be given the bedding and tent loads, so as to ensure not having to wait for shelter after a long and wet march. An important point in a safari is the choice of a good headman, as then all these details and the onus of bringing up the rear of the caravan can be left to him. All orders to the porters should be given through him. Thus, if a redistribution of the loads is necessary on the march, or a porter falls sick, it is his business to see to it and arrange matters.

The average of a day's march is from 10 to 15 miles. After a day's march is better to shoot some of the inside of the site for possible ground. Choose a site from which you can reach the unavoidable smoke fires at a certain extent.

It is better to have the camp all pitched and ready by 4 p.m. so that all the Europeans can seek the safety of his net, knowing that there has been no chance of mosquitoes having been caught.

Mosquitoes are most exacting in their attentions for the two hours after sundown and the two hours preceding dawn.

In most parts of Uganda bicycles can be used, and all the porters appointed to that Protectorate are recommended to bring one with them from England.

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## VII.—RETURNING TO EUROPE

Two routes are available for the return to the Nile; (1), by boat to Mombasa. Certificates are imposed on the journey home mentioned route; it is practically only those who are stationed at Nimule and Gondokoro

1. **Via Khartoum.**—The Government steamers have Government Passengers usually travel by post by favour only. On the necessity all the year round.

The pleasantest time of the year is during the winter months—this takes the passenger into the tourist season in Egypt.

As regards food, boats leaving Gondokoro in January and February carry a caterer and supplies food at an inclusive cost of 12/- per day. In the other months it is necessary to take one's own supply of food and a cook. Very little food can be obtained on route.

The journey down stream takes about 9 to 10 days.

The cost of the single journey is:—

	£	s.	d.
Uganda Officials.....	10	5	3
Tourists.....	16	12	0

exclusive of food.

In the winter months warm clothing is essential, on account of the coldness of the north wind and the Egyptian winter.

and his Medical Leave Certificate from the Medical Officer in charge of the station where he was posted.

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2. **Via Mombasa.**—The officer whose application for leave of absence has been sanctioned will obtain the necessary papers and warrants from the Treasury,

On board ship, the officer should be careful not to expose himself recklessly to a strong sea-breeze. A man with a few malarial germs in his system may easily induce their multiplication by contracting a slight chill from sitting about on deck in thin and unsuitable clothing.

Even though he has had no fever up-country, a man must not think that he is safe from fever when he leaves the place of infection. The dormant parasites contracted in Africa are not necessarily destroyed when the African coast is away on the horizon. They can, and may, exist for months, waiting into unpleasant existence after any indiscretion or neglect. Ignorance of this has caused much sickness and spoilt many a holiday. The majority of physicians who practise in tropical medicine in England are agreed that they see, case for case, severer attacks of fever at home than they ever did abroad. It is a sound thing for one who has had much fever in the tropics to take a three weeks' course of treatment at some watering place, either abroad or at Harrogate, for example.

To sum up:—

1. Be careful of the sun & take a first on board.

2. Avoid constipation.

3. Exercise a reasonable amount of exercise to sufficiently clad when remaining a deck at sunset.

4. Be prepared with adequate warm clothing for the cold weather sometimes met with in the canal, and further inland.

5. Take daily exercise if possible and carry out any instructions which may have been given you by your medical attendant.

## APPENDICES.

## A.

## OUTFIT.

As a rough guide to newly appointed officers the following hints on the choice of outfit are given. Where articles can be purchased more suitably, or equally cheaply in the Protectorates, the fact is noted; otherwise in providing a new outfit everything should be bought at home in the first instance. The easiest way to do this is through the Agency of some Colonial commission and forwarding firm, or through the Army and Navy Stores.

**Camp Furniture.**—For Camp life the following articles are issued to each officer personally, either by the department to which he belongs, or by the Transport Officer at the camp.

## EAST AFRICA PROTECTORATE.

## I. PROVINCIAL COMMISSIONERS AND HEADS OF DEPARTMENTS:

- 1 tent, 12 ft. x 13 ft. or 13 ft. x 16 ft., with ground sheet, verandah and bathroom.
- 1 servant's tent.
- 1 chair.
- 1 table.
- 1 camp bed, with mattress and mosquito net.

## II. OTHER EUROPEAN OFFICERS ON FIRST CLASS APPOINTMENTS:

- 1 tent, 9 ft. x 7 ft., with ground sheet, verandah and bathroom.
- Other equipment same as I.

## III. EUROPEAN OFFICERS ON SECOND CLASS APPOINTMENTS:

- 1 tent, 7 ft. x 6 ft., with ground sheet and verandah.
- Other equipment same as I.

## UGANDA.

## I. OFFICERS.

- 1 9 ft. x 7 ft. tent complete with verandah.
- 1 folding chair.
- 1 folding table.
- 1 X compactum bed complete, with book joints.
- 1 mosquito curtain.

## II. JUNIOR OFFICIALS.

- 1 6 ft. x 6 ft. tent with verandah and the rest of the articles enumerated above.

As the Government X compactum bed does not possess the brass rods as described on page 18 and the mosquito curtain is only the ordinary indoor one, not at all adapted for a tent and camp life, it is recommended that the officer should bring this out with him.

To complete this camp outfit, the following articles are required:—

Bath.—An oval tin travelling bath, not too big, fitted with cover and strap, and a wicker work basket in which

the more awkward articles may be packed (e.g., gum boots, candle lantern, etc). This is also useful in the house. Some prefer a green folding canvas bath as taking up much less space for packing.

Bedding.—Probably the most useful of all arrangements is a Welsley valise, anyhow some sort of rain-proof canvas sack should be provided to contain the bedding.

This should consist of:—

1. Quilted hair mattress, if possible slightly wider than the width of the compactum bed (see page 18).

2. Blankets.—Some prefer a Jaeger sleeping-bag, but one or two pairs of Jaeger blankets are more useful afterwards in the route. If the expense of these are objected to, some coloured Austrian rugs should be bought; ordinary white blankets get dirty very soon.

3. Sheets.—Two pairs of sheets if used will be ample, the pair not in use being folded and placed in the pillow-head of the valise. Here again Jaeger's sheets are recommended.

4. Pillows.—Two will be sufficient, one of which should be a down pillow (not procurable locally); a soft pillow is a great comfort in illness.

A change of clothing (thin flannel suit and shirt, sweater or warm coat, socks, pyjamas, slippers, etc.) should be packed in the valise for the march, so that after a hard day's trek, the officer may be able to change into something comfortable at once and not have to wait until the arrival of the rest of the porters.

For the dining table, the most convenient arrangement is one chop box containing all the necessaries in charge of the table boy.

This should contain:—

- 3 table knives.
- 3 small knives.
- 3 large forks.


- 3 dessert forks.
- 3 table spoons.
- 3 dessert spoons.
- 3 tea spoons.

- 1 travelling salt-cellar.
- 1 " pepper-pot.
- 1 " mustard pot.

- 2 enamelled iron or aluminium dining plates.
- 2 " " soup plates.
- 2 " " pudding plates.
- 2 " " cups and saucers.
- 2 " " tumblers.
- 1 " " tea-pot.
- 1 " " milk-jug.
- 1 knife-board.

All these articles, except those in aluminium, are procurable locally. Aluminium is not very satisfactory for the coast as it corrodes. The box should be fitted with partitions, and a useful addition to it would be two earthenware receptacles, fitted with tin covers to carry cold meat, and bread (these can be obtained from any of the London stores). The box can also hold the current supplies of tea, coffee, jam, sugar, condiments, a small tablecloth, a couple of napkins, and, in addition, all the boy's cleaning implements and cloths. Many officers prefer one of the various patterns fitted lunch baskets sold by outfitters.

For the kitchen, there should be another box holding all the cook's utensils:—

- 4 cooking pots, aluminium or iron.
  - 1 frying pan, aluminium or iron.
  - 1 mincing machine.
  - 1 gridiron.
- 

- 1 large and 1 small cook's spoon.
- 1 cook's knife.
- 1 cook's fork.
- 1 axe for chopping firewood.
- 1 large kettle for boiling drinking water and for the bath water.
- 1 small kettle for tea, etc.
- 2 small aluminium or enamelled iron pie dishes.
- 1 "Malaria" for boy's and cook's own food.

These are all also procurable locally. This box, minus the large kettle, will be able to carry, without unduly loading the porter, the cook's current supplies of oil, vinegar, cooking salts, seasonings, etc.

**Lamps.**—The commonest lamp in use is the Hurricane lamp, obtainable at most stations. Lord's lamp, only to be purchased at home, is preferable. This contains a small reservoir for oil sufficient for short journeys and often saves the trouble of carrying a whole tin. As the latter lamp is an awkward article for a porter to carry, it is best packed in an empty wine case, along with some article not liable to be tainted by the smell of kerosene. A candle lantern or portable electric lamp is a desirable addition for emergencies. For the coast lamps and candles should be fitted with punkah shades on account of wind and insects.

**Medicines.**—As natives invariably expect the European with whom they are in contact for the time being to doctor them, he should have some sort of handy medicine chest readily accessible in camp after the day's work is done, both for their sakes and for his own. This need not be an elaborate affair, though many firms put useful and convenient little fitted cases on the market; any small box holding a selection of the remedies with the use of which

the European is familiar will suffice. As a guide the following list of drugs and dressings is suggested:—

**Purgative tablets.**

- 1 oz. Chlorodyne.
- 100 tablets Phenacetin.
- 200 tablets Quinine, Bi-hydrochloride.
- 100 tablets Dover's powder.
- $\frac{1}{2}$  lb., or 100 tablets Permanganate of Potash.
- 1 lb. Alum.
- 1 lb. Sulphate of Soda
- 1 pot Hasoline snow, or some similar ointment.
- 1 clinical thermometer.

1 pair of scissors.

$\frac{3}{4}$  lb. absorbent wool.

$\frac{1}{2}$  lb. boric lint.

1 oz. gutta-serena tissue or oiled silk.

A few yards of cotton-sheeting, purchased locally, for tearing into bandages.

If the officer is resident in a station, it will not be necessary for him to invest in all these, as in the case of any journey he can always obtain the few necessaries from the Medical Officer of the station.

**Buckets.**—Either a bucket canteen can be taken, or one galvanized iron pail for the cook's use and bath water, and one enamelled iron pail with cover for the drinking water. These can be bought in the country, as can also water-bottles.

**Wash-hand stand.**—This should be a collapsible one, many patterns of which are on the market. Those provided with a canvas cover for the basin are good, as all the toilet accessories can be packed up in it.

When the wet weather is on, a spade for digging trenches round the tent, should not be omitted.



in England. The sun is not as hot as in India or the Sudan, but nevertheless an efficient protection for the head is a necessity.

**Boots.**—Good shooting boots are a necessity in the country. Ordinary working boots, tennis and dress shoes, slippers, and gum boots are all useful. A good plan is to have a well-fitting last left at the home bootmaker's for convenience in replenishing supplies. Foot-gear can be obtained at the chief towns in the country. Gaiters or putties for the march and wet weather should be included, also a pair of soft mosquito boots (or camel riding boots) to protect the ankles and legs from bites of mosquitoes and insects.

For settled residence in a station, and for furnishing his bungalow, an officer should bring out with him various household effects. To aid him in his choice the following list of articles required is subjoined:—

4 large bath towels,

4 face towels

A supply of toilet soap.

Spare nail-brushes and tooth-brushes

Glass cloths and dusters.

Cutlery and boot-cleaning material.

12 napkins

3 ordinary table cloths, and, in addition, 2 small tea cloths which can be used in the station or on safari.

Dinner service for six people.

Tea service for six people.

Glass ware for six people.

Do not forget if used, jugs, salt cellars, mustard and pepper pots.

Two table lamps; some people prefer the Mitchell patent, but there is no doubt that the best and most brilliant illumination, equally convenient for safari work, is one of the various patterns of acetylene lamp. This entails the provision of enclose, which, in one form or another, can be purchased locally from the bicycle shops.

In a number of the bungalows are fitted with electric light.

If an officer does not wish to incur all this expense, he can always fall back on the enamelled iron-ware in the safari chop box, and pick up in the country such things as he finds he requires. But he should remember that these articles can be chosen in better accordance with his own taste and requirements and more economy on the part of some.

**Boxes.**—All personal kit should be packed in air-tight tin uniform cases, either Army and Navy or Silver's or some suitable pattern. Probably the latter is best. A suit case or kit bag comes in useful on the railway journeys both across the Continent and in the Uganda Railway. A green canvas bag or box is the most useful. Crockery, glass, etc., should be packed in tin cases.

**Saddlery.**—If an officer does not have his own outfit, it will be possible to pick up some good saddles in the country. Saddles should be well made, with a crupper, not too narrow and with wide girths. A good pickering bridle is most useful.

**Arms.**—The importation of 303 rifles or 450 M.H. rifles or ammunition is prohibited. Speaking generally, a .303 or a .275 Mannlicher is a useful weapon. Where expense is not a consideration, a .450 cordite express rifle forms a desirable weapon for big game. A shot-gun should be brought. Shot-guns as 16-20-bore cartridges are not stocked in the country. Guns as trade in rifles and ammunition.

There are always a certain number of second-hand guns to be bought in the country.

As said before, it is advisable to have as many as possible of the packages not wanted on the voyage despatched well before the officer's own departure from England. If the loads are not consigned to the care of any firm in Mombasa, they should be directed to the care of the Director of Transport at that port, and the invoice posted to him so that they may be cleared from the Customs.

## B.

## FURNITURE.

In East Africa the Government allowance of furniture is on the following scale

## I.—HEAD OF DEPARTMENTS, PROVINCIAL COMMISSIONERS, 1ST AND 2ND SECRETARIES:—

Bed with spring mattress	2
2 pillows and mattress to net	2
Washstands	2
Dressing table	2
Chest of drawers	1
Wardrobe	1
Dining table	1
Sideboard	1
Chairs, dining room	6
" bedroom	2
" lounge	3
Filter	1
Commode	2
Set of bedroom crockery	1

## II.—ALL OTHER GOVERNMENT OFFICERS:—

Bed with spring mattress	1
2 pillows and mattress to net	1
Washstand	1
Dressing table	1
Chest of drawers	1
Dining table	1
Chairs, dining room	4
" lounge	2
Filter	1
Commode	1
Set of bedroom crockery	1

## III.—EUROPEAN JUNIOR OFFICIALS :—

Bed with spring mattress	1
2 pillows and mosquito net	1
Chest of drawers	1
Dining table	1
Chairs, dining room	2
Commode	1
Set of bedroom crockery	1 enamel.

Enamelled iron toilet sets, and not crockery ones, are issued to all Government stations off the Railway.

Mosquito nets are renewable in April every year.

In Uganda, the scale of furniture is laid down according to the class of house allotted to the Officer as follows :—

FIRST CLASS.	
1 wardrobe.	1 dressing table.
*2 bedsteads.	3 tables.
4 arm chairs.	2 commodes.
6 table chairs.	2 sanitary pans.
	1 filter.

SECOND CLASS.	
1 wardrobe.	3 tables.
*1 bedstead.	2 commodes.
2 arm chairs.	2 sanitary pans.
6 table chairs.	1 filter.

THIRD CLASS.	
*1 bedstead.	3 tables.
2 arm chairs.	1 commode.
4 table chairs.	1 sanitary pan.
	1 filter.

FOURTH CLASS.	
*1 bedstead.	2 tables.
1 arm chair.	1 commode.
4 table chairs.	1 sanitary pan.
	1 filter.

FIFTH CLASS.	
*1 bedstead.	1 commode.
2 table chairs.	1 sanitary pan.
1 table.	1 filter.

\* Includes mattress, pillows and mosquito net.  
N.B. Officers of the Uganda Railway are not provided with furniture by the Government.

## FREE TRANSPORT—EAST AFRICA PROTECTORATE.

Accommodation.	Amount of luggage.		Services.	
	In appointment, leave and repatriation.	Transit on official duty or sick leave.	In appointment, leave and repatriation.	Official journeys by rail.
<i>The Chief Justice</i>				
I.—His Excellency the Governor, The Chief Secretary to the Government, The (Inspector General), King's African Rifles.	Reserved saloon.	Rs. 1,120 lbs. 230	Rs. 1,120 lbs. 230	3 2
II.—Judges of the High Court, Officers, members of the Executive and Legislative Councils, Provincial Commissioners, Officers Commanding Battalions King's African Rifles, Inspector General of Police, and <i>Queen's Judges</i>	A reserved compartment. (A 2-berth compartment is to be taken when possible).	1,120 230	do.	3 2
III.—All other European officers <i>(other than clerks on salaries of not less than Rs. 200 per month, or 1st class agents)</i>	I. Class	1,120 230	do.	3 2
IV.—All other European officers <i>and non-European officers</i> on salaries the maximum of which is not less than Rupees 200 per month.	II. Class	560 120	do.	2 1
V.—All other officers on salaries the maximum of which is not less than Rupees 80 per month, and clerks, as distinct from artisans & other subordinate officers, on salaries of not less than Rupees 60 per month.	Intermediate.	230 120	do.	1 10
VI.—Officers on salaries the maximum of which is not less than Rupees 80 per month.	III. Class.	120 60	do.	1 10

1. All officers are allowed free transport for their families, by which is meant wife and children, on first appointment, leave and transfer, and also when travelling on local sick leave. Sick leave will only be granted on the recommendation of a Medical Officer.

2. The above specified amounts of luggage to which officers are entitled are additional to the amounts carried by the railway free on each ticket. On no account is more than 50 lbs. to be booked at "luggage rates," any excess beyond that amount must be booked at goods rates.

3. (a) Officers are also allowed free transport of a horse or mule when travelling on official duty provided that the horse or mule is necessary for the performance of this duty. (b) They are also allowed free transport for one horse or mule from Muzbasa or place of purchase within the Protectorate to their nearest railway stations, (c) and in cases where bicycle allowance has been approved by His Excellency for one bicycle, privilage under (b) and (c), however, can only be exercised once in a tour of service.

4. When an officer's family proceeds or follows him on first appointment, transfer, or on proceeding, or returning from leave, the same privilege will be granted as if they were accompanying the officer, provided that the total number of railway tickets and the limit of luggage is not exceeded on the combined journeys of the officer and his family.

5. Railway warrants may only be granted for servants when accompanying their master or their master's families as provided in paragraph 1, above, except when officers are proceeding on leave out of the country, when return warrants to the officer's last station may be issued.

6. "Servants' tickets" as a general rule are 3rd class, but in the case of officers employing European servants one 2nd class ticket may be substituted for one 3rd class ticket.

7. Officers taking leave on urgent private affairs before the completion of a tour of service are not entitled to free transport.

8. When an officer is not actually accompanied by his wife and family, the privilege of free transport on the railway for them will be allowed only once each way during each tour of service.

## UGANDA

### CLASS I.

Inspector General K. A. R.

GEN. SECRETARY.

Accommodation by Railway and Railway Steamers.	Number of Loads for which Transport will be provided within the Protectorate.	
	On and appointments, leave or Transfer.	On duty from stations or transfers.
Reserved Saloon on Railway. 1st class and 3rd class for 2 servants on Steamers.	1,120 lbs.	2,110 lbs.

Class 2

Judges.  
O. C. Troops.  
Provincial Commissioners.  
Treasurer.  
Principal Medical Officer.  
Director of Public Works.  
Director of Surveys.

Inspector General of Police.  
Superintendent of Marine.  
Director, Uganda Transport.  
Auditor.  
Commissioner of Police.

Accommodation when travelling by Railway or Railway Steamers.	Passage on Railway and Railway Steamers in addition to Free Allowance on Railway Ticket.		Number of loads for which Transport will be provided within the Protectorate.	
	On first appointment, Leave or Transfer.	Other journeys outside the Protectorate on Official duty or Sick leave.	On first appointment, Leave or Transfer.	On duty from one District to another or on tour.
General compartment on Railway, 1st class on Steamer and 1st class for 2 servants.	120 lbs.	230 lbs.	50	50

\* Personal to present holders of appointments.  
(1) A Special Allowance of 80 loads in addition for the Inspector General of Police.

Class 3

All other European Officers appointed by the Secretary of State.  
All Officers on Agreements who, by their Agreement are entitled to a 1st class Ocean Passage.

Accommodation when travelling by Railway or Railway Steamers.	Passage on Railway and Railway Steamers in addition to free allowance on Railway Ticket.		Number of loads for which Transport will be provided within the Protectorate.	
	On first appointment, Leave or Transfer.	Other journeys outside the Protectorate on Official duty or Sick leave.	On first appointment, Leave or Transfer.	On duty from one District to another or on tour.
1st class and 1st class for servants.	120 lbs.	230 lbs.	50	50

Class 4

a. All European Officers, Permanent Staff or on Class 2 agreements.  
b. All other European Officers.

Accommodation when travelling by Railway or Railway Steamers.	Passage on Railway and Railway Steamers in addition to free allowance on Railway Ticket.		Number of loads for which Transport will be provided within the Protectorate.	
	On first appointment, Leave or Transfer.	Other journeys outside the Protectorate on Official duty or Sick leave.	On first appointment, Leave or Transfer.	On duty from one District to another or on tour.
a. 1st class Steamer, 2nd class Rail and 3rd class for 2 servants.	500 lbs.	230 lbs.	35	20
b. 2nd class and 3rd class for 2 servants.	500 lbs.	230 lbs.	35	20

Class 5

Chief Draftsman, Treasurers, Sanitary Inspectors, Forest Surveyors, Rate Collectors, Indian Assistant Surgeons and Sub-Assistant Surgeons.  
Indian Assistant Surveyors, on Rs. 160 per mensem or more.  
Chief Indian Veterinary Assistant, High Court Interpreters.

Accommodation when travelling by Railway or Railway Steamers.	Passage on Railway and Railway Steamers in addition to free allowance on Railway Ticket.		Number of loads for which Transport will be provided within the Protectorate.	
	On first appointment, Leave or Transfer.	Other journeys outside the Protectorate on Official duty or Sick leave.	On first appointment, Leave or Transfer.	On duty from one District to another or on tour.
2nd class and 3rd class for 2 servants.	500 lbs.	230 lbs.	35	20

## CLASS 6.

Clerks, Draughtsmen, Timekeepers, Sanitary Inspectors, Rate Collectors, Indian Assistant Surgeons, Sub-Assistant Surgeons, Indian Assistant Surveyors.

Indian Veterinary Assistants on less than Rs. 160 per mensem.

Indian Armourers, Indian Compounders, Indian Telegraph Sub-Inspectors, Asiatic Chauffeurs.

Accommodation when travelling by Railway or Railway Steamers.	Baggage on Railway and Railway Steamers in addition to free allowance on Railway ticket.		Number of loads for which Transport will be provided within the Protectorate.	
	On first Appointment, Leave or Transfer.	Other journeys outside the Protectorate on Official duty or Sick leave.	On first Appointment, Leave or Transfer.	On duty from one District to another or on tour.
2nd class Steamer and Intermediate on Railway and 3rd class for 1 servant.	340 lbs.	120 lbs.	30	20

## CLASS 7.

a. Indian Artizans on Rs. 50 or over.

b. All other Asiatics in Government employ.

Accommodation when travelling by Railway or Railway Steamers.	Baggage on Railway and Railway Steamers in addition to free allowance on Railway ticket.		Number of loads for which Transport will be provided within the Protectorate.	
	On first Appointment, Leave or Transfer.	Other journeys outside the Protectorate on Official duty or Sick leave.	On first Appointment, Leave or Transfer.	On duty from one District to another or on tour.
a. 3rd class.	120 lbs.	60 lbs.	15	10
b. 3rd class.	120 lbs.	60 lbs.	2, exclusive of Camp Equipment.	2, exclusive of Camp Equipment.

## CLASS 8.

All Africans as under:—

a. Clerks, Compositors, Type Distributors, Rice Instructors, Tailors, Stokes, Sailmakers, Blagins, Drivers, Masons, Blacksmiths, Carpenters, Ironworkers, Headmen.

b. All as detailed as above on less than Rs. 25 per mensem.

Accommodation when travelling by Railway or Railway Steamers.	Baggage on Railway and Railway Steamers in addition to free allowance on Railway ticket.		Number of loads for which Transport will be provided within the Protectorate.	
	On first Appointment, Leave or Transfer.	Other journeys outside the Protectorate on Official duty or Sick leave.	On first Appointment, Leave or Transfer.	On duty from one District to another or on tour.
a. 3rd class.	120 lbs.	60 lbs.	15	10
b. 3rd class.	120 lbs.	60 lbs.	2, exclusive of Camp Equipment.	2, exclusive of Camp Equipment.

1. All the foregoing includes the allowance for Transport of Camp Equipment and represents the maximum weight or number of loads which may be carried at the Government expense.

2. An allowance of 30% extra will be supplied to Officers touring in the Nile Districts, where pairs of oxen are incapable of carrying a full load each, but in such cases a certificate should be attached to the Wagon Receipt by the Officer who found it necessary to employ extra oxen, giving full details.

3. All Officers will be provided with the usual Camp Equipment, when proceeding on tour, if available.

4. A "load" must not exceed 50 lbs.

5. All Officers will on first appointment, leave, transfer, or local sick leave, granted on the recommendation of a Medical Officer, be allowed free tickets on the Railway for their wives and families. This privilege will be allowed in the event of an Officer not accompanying his wife and family, except in the case of local sick leaves provided that this occurs once each way only during one tour of service. Married officers when accompanied on "safaris" by their wives and families will be allowed for Classes I. to III., 10 extra porters and Classes IV. to VI., 5 extra porters.

6. An Officer when entitled to tickets for two servants may at his option be issued one 3rd Class Return ticket in lieu of two single tickets.

Officers of Classes I. to IV., inclusive, having a European servant, may be provided with a 2nd Class ticket for such servant in lieu of one of the third class tickets to which he is entitled, when travelling on first appointment, leave or transfer.

8. Officers will be allowed the privilege of utilising returning porters or carts for their private loads to a reasonable extent when such are available and when it is clear that no extra expense to Government is entailed.

9. Any Applications for excess porters or luggage allowance must in every case be made by letter addressed to the Director Uganda Transport.

10. When travelling on duty in the Protectorate Government Messes or Stations, Officers may be allowed passage for their families and an equal number of loads as when on duty at the discretion of the Director.

11. The maximum weight of baggage which may be conveyed at Luggage Rates on the Uganda Railway is 3 cwt. Any excess beyond this amount must be booked at Goods Rates.



D.

TREATMENT OF DISEASES AND ACCIDENTS

It rarely happens that an official is entirely out of reach of medical aid anywhere in the two Protectorates. At Mombasa, Nairobi and Entebbe there are European Hospitals at which European nursing sisters are stationed. At the smaller out-stations, where there is no medical officer, either a hospital assistant or compounder is in charge. These men are usually well acquainted with all the minor ailments, and are generally successful in the treatment of the most common diseases. A doctor should be consulted for the lesser ailments, but he will not improve on the services of the hospital assistant, who can be counted on to treat with a high degree of skill for a slight ailment, and to give a high degree of skill to gain the patient's recovery, and to "fighting" the disease, and to conserve his energy.

Malarial Fever.

Malarial Fever. - In the absence of a medical officer or compounder, the patient should be treated with quinine. For taking the temperature, the thermometer should be placed in the rectum to 95° before placing it under the arm pit; the thermometers are used a minute, one, two or five minutes, rise over a degree or two above the normal temperature, and the changes are that the patient is suffering from this fever. The first rule for treatment are:

1. Open the bowels.
2. Give quinine.
3. Promote perspiration.

Give the patient three or four teaspoonfuls of sulphate of soda, or any other purgative, as to ensure free evacuation of the bowels. Give 20 to 30 grains of quinine in the 24 hours by administering at 15 grains, and following at six or eight hours later with another 10 grains. If the fever abates, the daily dose after two or three days, this dose can be reduced to ten grains in the 24 hours.

Five grains of phenacetin may be administered when the patient is hot and dry along with a cup of hot tea, but not much like. The patient should be well wrapped in blankets. The evening dose of quinine may be given with a little weak hot whisky and water. If there is considerable soreness, five or ten grains of opium may be combined with the quinine.

If vomiting is a prominent symptom, the patient should lie as flat and quiet as possible, be fed only with small sips of water, and a mustard plaster put over the pit of his stomach.

If the temperature is very high—say 104 and over—cold sponging must be resorted to. As soon as the chill being stopped, the sick man is lifted up on a horizontal position (he may faint if he gets upright) and a waterproof sheet slipped under him, so that he may be lifted on to another bed all ready prepared.

Then sponge him all over with cold water, while a fan fans him, until the temperature falls to the lower level, to 102 degrees. As an alternative, he may be covered with a sheet wrung out in cold water, and the sheet changed frequently. When the temperature has fallen, a poultice may be made several times cooler than the patient is to it of one or two teaspoonfuls of castor oil, or brandy, vinegar or scent are valuable additions to the plain water, inasmuch as they assist a more rapid evaporation, and consequently a quicker cooling of the body temperature. After reduction of the temperature, should it be noticed to be rising again to 104 degrees, cold sponging must be again resorted to.



It is infrequently in malarial fever the rise of temperature persists for a varying number of days, and there is always the risk of the trouble being due to something else, otherwise the treatment is always bed, avoid congestion, and 15 to 20 grains of quinine daily.

The diet in malarial fever should consist of milk—hot or with soda water—weak tea, broth, beef-tea, bread and milk, custards, and similar light milk puddings.

After the temperature has come down to normal, or more often to below the arrow-mark, the patient should still keep his bed, or at any rate the house, for a few days. Diarrhœa from any cause should be treated by a dose of castor oil, or a teaspoonful of sulphate of soda.

If severe pain is present, the abdomen should be warmly wrapped up and ten or fifteen drops of Chlorodyne taken three or four times a day. The diet should be restricted to milk and milk puddings and arrowroot—this can be made with milk or water, and flavoured with one table-spoonful of brandy. As precautions against diarrhœa, see that all drinking water is filtered and boiled—see that the filter is clean; examine cooking pots to see that the tinning has not worn off.

The presence of blood in the motions should not be disregarded. It may be due to piles or dysentery, and in either case a patient should travel at once to see a doctor. Dysentery is indicated by the mixture of blood and slime in the motions, griping and considerable looseness of the bowels. A good treatment to adopt is to mix four table-spoonfuls of sulphate of soda in a wine glass of water and sip a teaspoonful of this mixture every two hours until the slime and blood in the motions cease, and copious watery discharges take their place. Food should be milk in any form, ricewater, white of egg beaten up into a little froth and mixed with milk and a little sugar. The disease should not be allowed to become chronic. The precautions against dysentery are the same as those against diarrhœa.

**Blackwater Fever.** This only occurs in persons who have had repeated attacks of malarial fever, hence the importance of avoiding being bitten by mosquitoes. The disease is

easily recognized; the patient having previously suffered from fever, feels suddenly very ill and on passing water, notices that it is the colour of Worcester sauce. He probably has a shivering fit, and a rise of temperature, and feels so ill that he takes to his bed. In every case of black water fever it is advisable to consult a medical man as soon as possible. X ~~Unless the case is very grave it may be quite possible to take the patient to the doctor instead of sending for one, but there is no doubt that a long and exhausting journey at the commencement of a case greatly increases the gravity of it, and this should, therefore, be borne in mind when deciding whether or not the patient should be moved.~~

The main indications for treatment are absolute rest in bed, so as to preserve the patient's remaining strength, and tide him over the crisis by the aid of stimulants. Absolute rest in bed means that the patient should lie perfectly quiet, and not be allowed to sit up suddenly or get out of bed. Fluids should be freely taken in order to flush out the kidneys. A bed-pan should be used. Quinine should not be given. Very often brandy is better borne than champagne. Small quantities, mixed with soda or sparkling water, should be given at frequent intervals. The diet should be the same as in a severe malarial attack—concentrated liquid nourishment and milk given at regular intervals. The patient may drink freely of milk and soda, barley water and soda water with a squeeze of fresh lime to it. Should the temperature rise very high, ice-ponging should be resorted to. If the vomiting is so severe as to preclude the swallowing of liquids by the mouth, and the patient is becoming exhausted, an effort should be made to inject some nourishment up the lower bowel. Saline injections (consisting of one teaspoonful of potassium salt dissolved in a pint of warm water) should, if possible, be injected, very slowly, into the lower bowel—about a pint every two or three hours—until the patient is able to retain liquid in the stomach.

If there is difficulty in passing water, wrap the loins in large flannel cloths wrung out in water as hot as can be stood.

To wring out a flannel in the boiling water, wrap the cloth in the centre of a towel and dip it in a basin of boiling water. By twisting the ends of the towel in opposite directions all superfluous water can be removed without scalding the hands. If there is much pain in the small of the back, ten grains of Dover's powder can be given. If there is much collapse, large poultices, sprinkled with mustard and wrapped round the extremities often have a yellow effect. After the discharge of blood urine has dried up, the patient is not to regard himself as cured; he should still be very careful of undergoing the slightest exertion.

#### INDIGESTION

Indigestion is best treated by a smart purgative. It is often removed by swallowing, in a wine glass full of water, as much bicarbonate of soda as can be heaped up on an anna bit, two or three times a day about a quarter of an hour before meals. Ten grains of soda mint are often very efficacious.

**Friction heat.**—Temporary relief is always obtained by sponging the affected parts with a solution of Condy's fluid or permanganate of potash, the strength of the solution being indicated by a deep ruby colour. A better treatment is to apply the cut half of a fresh lime to the parts night and morning. All wet clothes should be changed as soon as possible.

**Bites of Poisonous Snakes.**—Snake bites are very rare in the country, still, the provision of Sir Lauder Brunton's little case containing a lancet and a supply of permanganate of potash would cost but little and may save life. First tie a tourniquet above the laceration on the bitten limb. This tourniquet can be extemporized by twisting a handkerchief (or anything suitable) into a rope and knotting it as soon as possible round the limb. By passing a piece of stick beneath the ligature, and twisting it round, the required degree of constriction can be obtained, effectually blocking the circulation and preventing the absorption of the venom into the general system. The stick can be kept in place by tying the ends to the

limb. Next try and cut out the dead tissue, leaving mar-  
 deer holes with the lancet all round the wound, and rub in the crystals of potassium permanganate or potassium  
 and rub in the crystals of potassium permanganate or potassium  
 hour or two douche the wound with some antiseptic  
 lotion - the tannic acid. Then dress with gauze and substitute  
 ordinary dressings. Do not let the patient  
 do not give unlimited alcohol. Both tend to  
 circulation and hasten the resolution of the inflammation.  
 If there is much about the wound, the use of potassium permanganate is  
 be a minor detail.

**BROKEN LIMB.** If a bone has broken through the  
 skin and comes a little way out, the first thing to do is to  
 stop the haemorrhage. Then dress the wound with a course of  
 described on page 67. If the bone is broken in several places  
 dressings will soaked in some antiseptic solution and  
 change the bandage.

In treating all fractures it is essential  
 thing is to rest the end of the limb and prevent  
 them rubbing together. The limb should be placed through the  
 skin. Envelop the limb in a firm material for support  
 which will keep the limb in position and prevent rigidity. A  
 ready method is to use a splint made of two sticks or  
 narrow boards, one on each side of the limb, one above and  
 one below. The splint should be secured with this is  
 done. The limb should be kept at rest.

**LION'S MOUTH.** This is a small animal, probably the  
 best thing to use for a splint. It is a twig, which is round  
 the end of the limb. It is made of a piece of handkerchief,  
 and is used to thoroughly clean the wound. This is done by  
 out each side of the limb. This is done by using this new strong

When dressing the wounds in some antiseptic  
 solution. The dressings soaked in the solution and  
 in change. The dressings should be changed at least twice  
 a day. The patient should be kept as soon as possible under the care  
 of a doctor.

X

## E.

## CIVIL UNIFORM FOR HIGHER OFFICIALS.

The following uniform is prescribed for wear by certain senior members of the Colonial Civil Service in Tropical countries (see Colonial Regulations, § 16).

2. The uniform is to be of white drill with a stand-up collar, on which is to be a detachable gorget of gold braid on a blue ground. There are three patterns of gorget, one for the first and second classes, one for the third and fourth classes, and one for the fifth class. The usual buttons will be worn according to rank as prescribed in the "Schedules of Civil Uniform" issued from the Lord Chamberlain's Office, the general purport of which is embodied in the Colonial Office Regulations. The number of buttons on the cuffs will be according to rank, i.e.:-

1st and 2nd Class	Three buttons.
3rd and 4th Class	Two buttons.
5th Class	One button.

The usual Civil Service sword will be worn, the frog and scabbard being underneath the coat, the hilt appearing through a slit in the side of the coat.

3. Ribbons of decorations and medals will be worn half-way between the first and second buttons. It will be within the discretion of His Excellency to order the wearing of full-sized medals and decorations, but unless orders are issued on this point ribbons only will be worn.

4. No lace is worn on the trousers.

5. The uniform will be worn with a white helmet, bearing on the front a gilt badge with the Royal Arms and Supporters.

6. The uniform will be worn on all ordinary occasions in the daytime where the wearing of uniform is desirable, but should not be worn at any evening ceremony, except on occasions where Naval or Military Officers of any nationality are likely to be present in uniform.

7. A scaled pattern of this uniform has been deposited with the Crown Agents for the Colonies.

RAINFALL IN INCHES.

1912	Months	MOMBASA.				NAIROBI.			
		1908.	1909.	1910.	1911.	1908.	1909.	1910.	1911.
0.32	January	0.22	0.47	1.77	0.16	0.05	2.90	2.13	0.04
3.27	February	0.00	0.00	0.02	4.00	1.69	0.00	0.00	3.10
12.61	March	0.00	4.32	0.07	1.10	1.85	9.15	1.88	4.72
12.12	April	10.72	15.52	7.33	9.05	5.60	7.61	5.50	9.64
2.20	May	22.31	6.38	11.98	12.72	2.85	0.52	5.96	4.24
0.52	June	4.50	3.92	2.54	4.53	1.22	1.10	0.62	2.9.
1.44	July	5.71	8.20	4.49	3.51	0.34	0.62	2.9.	0.5.
2.94	August	2.05	2.27	2.79	2.77	0.84	2.18	0.5.	0.5.
15.50	September	1.82	2.49	0.55	0.62	0.43	2.41	1.9.	0.5.
19.24	October	3.50	1.52	2.23	1.48	4.58	2.65	6.9.	0.5.
5.48	November	1.92	4.40	3.20	3.8.	4.8.	8.09	5.4.	0.5.
3.35	December	0.41	4.19	2.19	0.8.	2.19	2.19	1.1.	0.5.
17.57	Total	52.9.	52.9.	37.40	2.79	28.28	39.34	0.7.	4.1.

1912	Months	KISUMU.				ENTEBESSI.		
		1908.	1909.	1910.	1911.	1907.	1909.	1910.
1.21	January	2.11	1.71	1.59	0.49	1.17	1.89	0.5.
4.30	February	4.27	1.82	0.54	0.33	3.41	1.46	0.5.
3.46	March	5.18	4.53	2.31	7.29	2.26	0.86	1.5.
10.11	April	10.44	4.98	4.62	6.71	11.82	12.09	8.8.
4.70	May	6.59	4.65	3.01	5.90	10.31	2.96	15.0.
3.04	June	6.65	1.99	2.42	2.88	3.77	2.82	4.1.
3.02	July	5.32	1.05	4.99	0.84	5.01	1.86	2.0.
5.47	August	4.16	2.29	2.16	7.25	2.90	3.26	2.4.
6.49	September	0.85	1.42	1.66	0.82	0.93	7.15	7.0.
1.02	October	7.84	0.61	0.55	3.12	0.51	4.47	1.31
4.89	November	3.62	2.45	0.74	0.1	7.40	5.91	3.39
2.09	December	2.81	0.19	5.42	0.00	4.47	8.64	0.43
46.21	Total	52.9.	42.94	32.70	36.25	41.77	66.44	62.27

