ISSN 0260-5805

THE BRITISH HERPETOLOGICAL SOCIETY

BULLETIN

No. 24
Summer 1988

MAKING A HERPETOLOGICAL COLLECTING TRIP TO AFRICA

STEPHEN SPAWLS

Moeding College, Private Bag 11, Lobatse, Botswana

This article is not aimed at the experienced professional herpetologist but more at the enthusiastic amateur who has done some collecting in Europe and would like to try his hand at a combined holiday/collecting trip to Africa. For the experts among you, my information may seem simplistic, for this I apologise.

Planning and timing are important. Not all of Africa is tropical and reptiles and amphibians are not active throughout the year. In countries north of 15N, i.e. from Mauritania east through Morocco, Algeria and Libya to Egypt and the northern Sudan, winter occurs the same time as in Europe and although it does not get as cold, herpetological activity is greatly reduced. One can collect in Egypt in November, but little is to be found other than diurnal lizards. In north Africa, herpetological activity begins in March and continues through to September, although from June to August there is a reduction of daytime activity, due to the high temperatures. Rainfall is not particularly important, as it is ephemeral and in north Africa tends to fall in the winter months. Good times for collecting trips to north Africa are April/May, when creatures are starting to emerge and nocturnal activity begins, and late August/September, when hatchlings are around. At the other end of the continent, the reverse applies. Winter is from May through to August in South Africa, Namibia, Botswana, southern Mozambique and Zimbabwe. There is little activity at this time, save diurnal lizards and snakes; no amphibians are seen. Herpetological activity begins around late September and continues until April. Rainfall is significant. In southern Africa the rain falls in the summer, usually commencing in September (except for extreme southern South Africa, which gets some winter rain. Herpetological activity is often triggered by the first heavy rainfall: in Botswana I have noticed that in September most nights are hot enough for the nocturnal snakes to emerge and yet nothing seems to happen until the rain actually falls, then suddenly everything is out and active. If your collecting trip happens to coincide with the first good rainfall of the season, you can get fantastic results, but the date of this first fall can vary a lot, so a collecting trip to southern Africa is best timed after the rains have definitely begun, say November-December or later. March-April is also a good time, as hatchlings are around and there is a lot of activity by animals hunting for a last meal before hibernation begins.

In west, central and eastern Africa, herpetological activity is largely controlled by rainfall. In west Africa (Senegal east to Cameroon), the rainy season commences in late March/April and continues to October; peak herpetological activity occurs between April and July, with rainfall triggering initial activity and hatchlings appearing in May/June. You can collect in west Africa throughout the year and get results, but December and January tend to be a bad time. It is colder than usual, especially at night, and a dry, cold wind, the Harmattan, blows from the Sahara and fills the air with haze. There are no amphibians around and the nocturnal reptiles are active for only an hour or so after sunset. Late August and September also tend to be unproductive, as they are cold, wet months.

In East Africa, one can collect almost throughout the year. However, in Kenya, April and May are probably the best times, when the long rains commence, and December/January is a good time to collect at the coast. In highland Kenya, July and August tend to be unproductive as it is dry and cold, but this does not hold for Ethiopia, when much rain falls at this time. For more specific information on rainfall and mean monthly temperatures, a good school atlas, or one of the Michelin motoring maps of Africa, will be useful. In general, time your trip to co-incide with a warm period shortly after the rainfall commences.

Your second consideration when deciding where to go will be whether the country is geared for tourism. Such countries have the following advantages: (a) they'll be used to foreigners, and you should be able to travel freely, (b) transport (if you need it) should be available, (c) travel and accommodation shouldn't be too expensive. Good countries in this category

are: Morocco, Tunisia, The Gambia, Kenya, Zimbabwe, Swaziland, Lesotho (and Botswana, Tanzania and Zambia to a limited extent). Obviously, tourism won't concern the collector with a very specific trip or expedition in mind – if you want to be the first person to collect a live *Bitis parviocula*, you'll be going to Ethiopia come hell or high water – but be warned, Ethiopia (and quite a few other African countries) are very expensive and difficult to move around freely in, something essential to field herpetology. For obvious reasons, you'll want to avoid war areas.

Your third consideration will be the length of the trip, and how long to stop in each place. If you're taking, say, a two week package and it offers the possibility of one week in two different locations, then take it – you will see a different habitat. However, don't go overboard, especially if you're driving – if you're mobile, then for best results I'd say spend two or three days (or more) in each area to get good results. If you set yourself an over ambitious itinerary, you could find yourself spending most of the time driving or recovering from it and little time collecting. On dirt roads, 300km can be an exhausting day's journey which leaves you too shattered at the end to collect.

Your fourth consideration: what is the attitude of the government of that country to the collecting herpetologist? It can vary wildly from country to country. For example, in Egypt, you can collect what you like, more or less where you like (although military areas, and the unmarked minefields of the Gulf of Suez and the Sinai should be avoided!) and there are no problems exporting specimens (apart from chameleons and monitor lizards). In Kenya, you can collect freely, except in the National Parks and some of the western forest, but the Game Department does not issue export permits and there is a customs examination on leaving the country, and this can cause problems. (You should also remember that officially, you are not allowed to transport live animals in your personal baggage: there are specific IATA regulations governing the transport of live animals. A customs or security official discovering live animals in your baggage before the flight may well prevent you taking them on board). In Ghana, officially you need a permit to collect more than one of any species of reptile, and there are rigorous customs searches on leaving the country. And so on .....

So, six months before you go, if you live in the U.K., write to the Department of the Environment (Endangered Species Branch, Tollgate House, Houlton Street, Bristol BS2 9DJ) stating the country you intend to visit, and the numbers and species of animals you intend to collect. If you're not sure what species occur there, then Ken Welch's "Herpetology of Africa" (1982 Robert E. Krieger publishers) should give you some idea. I'm also happy to point anyone interested towards more detailed regional checklists, where they exist.

After some weeks, the DOE should send you CITES (Convention on International Trade in Endangered Species) import permits for the species you want, usually with the proviso that the specimens should not be sold. What this import permit generally does not state, however, is what controls exist within the exporting country – for example, for animals on schedule B, a licence to import into the U.K. from Botswana is freely granted, without condition, and makes no mention of the fact that you cannot officially collect within and export anything from Botswana without a permit from the department of wildlife and national parks ..... but there is no customs examination when you leave the country.

There are two possible approaches to this problem. One is to simply get your permits, collect quietly in the country, put the animals in your suitcase and return home, making sure you are legal at the U.K. end. This is fine, unless you run foul of officialdom at the African end – e.g. at the customs examination on leaving, or if an official of the local game department finds you collecting or in possession of specimens. In Africa, great importance is attached to documentation and if you're found collecting without any sort of paperwork, especially in countries with a game policy, at the very least you could find yourself wasting a lot of time explaining. However, many will prefer to risk the quiet approach.

The second, and best, approach is to make everything legal (if possible) (this is essential if you're making any sort of official or sponsored expedition). When requesting your import permit from the DOE, ask for the address of the controlling authority within the country of export, or alternatively, apply for an import permit for a chameleon, python or monitor lizard – movement of these reptiles is strictly controlled under CITES regulations, and your

permit will contain the proviso that you obtain an export permit from the country of origin, and will give you the address to apply to. Write to the authority at this address (allow at least two months for a reply, bureaucracy moves slowly in Africa), asking if you need a permit to collect and export, and if the permit can be obtained in advance. Explain that you don't intend to collect commercially. If you're doing some sort of research, or can get hold of an official letterhead, or have published and can send them photocopies of your work, so much the better. Where an application by a private individual collecting for his own pleasure might be refused or ignored, a seemingly official request might well be granted. Keep a copy of your letter and don't despair if you do not get a reply, at least someone will be forewarned.

If you get a reply indicating that you should make application in the country, then do so as soon as you arrive, don't leave it until the last afternoon. In Africa, wildlife officials will often be out on safari, and many government departments only work in the mornings. An important point (although not herpetology!) is, if you've got to visit a government department to get permits, dress smartly, daft though it may seem in a hot country. In Africa, great importance is attached to dress – it indicates status – and although us British like to dress casually on holiday, if you turn up at a government office to see an official while dressed like a tramp, you'll be treated like one.

Coming back, remember to put your captures in crushproof containers: airlines have been known to do funny things to suitcases. Most aircraft have warmed and pressurised cargo holds, but the smaller older planes may not. Put the containers in the middle of the suitcase and insulate them with your clothes.

Finally, if possible, don't go alone, take a friend or two: things are much easier, especially if you should get ill, injured or bitten (or come up against some bloody-minded officialdom).

The equipment you are going to take with you will depend on the scale of your trip – you might be taking two 4-wheel drive vehicles, all your provisions, drift fencing, funnel and pit traps and radio telemetry gear – in which case, you don't need my advice. For the small scale herpetologist, I advise the follwing (without bothering to state the obvious, like light, comfortable clothing etc.). Firstly, good maps of the areas you'll be visiting, 1;50 000 or even larger scale are very useful and will give you a chance in advance to plan your excursions and locate collecting spots, very important if you haven't got transport. In the U.K., maps can be obtained from Edward Stanford, 12-14 Long Acre, London WC2, or the Ordnance Survey (Overseas Branch), Kingston Road, Tolworth, Surbiton, Surrey; both are very good for maps of ex-colonies. If you're going to be mobile, then get the mentioned Michelin motoring maps of Africa, which give excellent road information. For data on topography and vegetation, I sometimes use tactical pilotage charts (flying maps), which are most useful. Get a guide book to the country or local area if possible.

A powerful torch or hand lamp is a must for night hunting, which can be very rewarding in Africa. Your best bet is a tough plastic or rubberised torch, giving a fairly wide beam; a hand lamp or strip light is also useful although not so good for spotting sleeping tree snakes. Take spare bulbs, and, it your light doesn't use very common batteries (i.e. HP 7), then take all the batteries you'll need, as they can be hard to come by in many places in Africa. Rechargeable torches are nice, but you could find yourself in a place where there is no electricity, or it only comes on for a few hours at night (when you'll want to be hunting). Night hunting can be addictive – you could find yourself hunting 3 or 4 hours a night – so allow for the right number of batteries.

A pair of polarised sunglasses are useful: apart from keeping your eyes comfortable (especially if driving – the glare in Africa can give you a bad headache) they cut out reflected light from water, very important for turtle and amphibian enthusiasts. Take a floppy hat, useful for many things as well as the obvious. If you're keen on photography, remember to take all the film you'll need, plus a good blower brush (dust is often a problem in Africa) and remember to insure your gear before you go: the hardware around your neck could represent a year's wages to someone in Africa. A small pair of binoculars can prove handy, especially on hills and for peering up into trees.

Your basic field collecting gear will depend on you and the size of your expedition. If you're working from a vehicle, then a crowbar, a 2 or 3m grabstick, bottles of preservative and

Plate 1. West African Gaboon Viper, *Bitis gabonica rhinoceros*

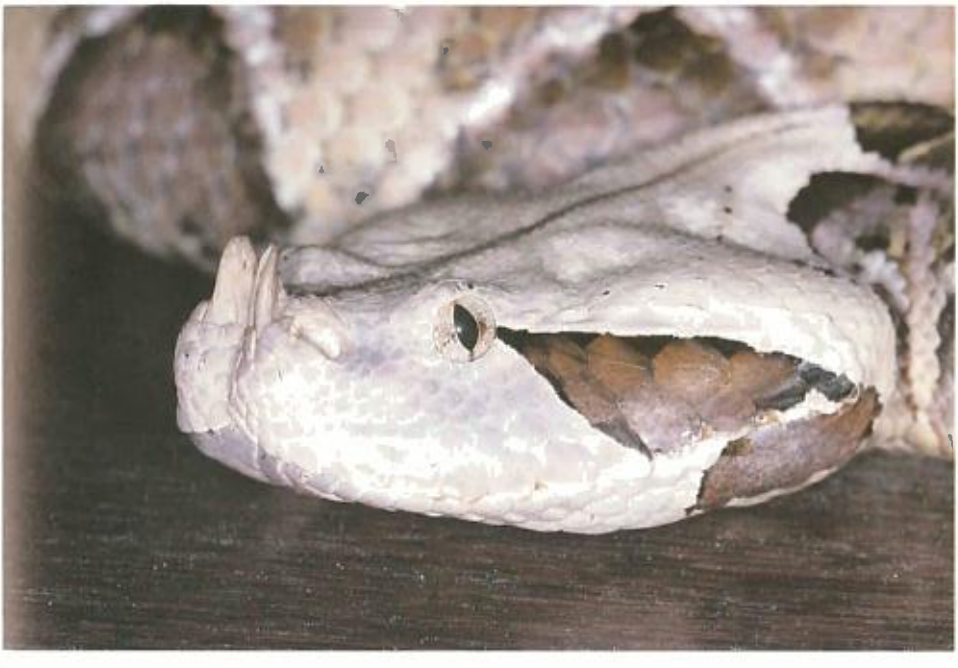

Plate 2. Close up of head of West African Gaboon Viper, *Bitis gabonica rhinoceros*

a stout compartmented holding box will be useful, but they are impossible hindrances if you're on foot or travelling by public transport. Your equipment will also vary according to what you're looking for; an amphibian enthusiast won't want a press stick, but may well like to have a tape of frog calls and a portable cassette player; a snake enthusiast will not want

a net. What I take into the field, when I'm on foot, are a hookstick and a small canvas bag slung on one shoulder (I find a backpack is restrictive and difficult to get things out of in a hurry). My hookstick is a sawn off golf putter, bent round at the end to form a hook and filed flat on the underside of the hook. It is light and robust, and serves as a press stick, a hook for turning ground cover, and as a light crowbar for prising off rock flakes and stripping bark. A commercial stump ripper will serve the same purpose. In my bag I have a pair of 30cm surgical tongs, of the sort used to take things out of sterilisers. These can be used for picking up poisonous arthropods, small poisonous snakes, for getting the head of bigger poisonous snakes when they've been pressed or grabbed, extracting animals from shallow refuges and poking about in holes. I carry three or four bags, one very large, the size of a pillow case, with sewn-in strings: there is nothing so maddening as trying to tie a bag with a big struggling animal in it and finding you've lost the string. I also carry a pair of industrial leather gauntlets, not for handling, but to protect the hands if I'm turning a lot of rocks (especially if they're hot) or sticking my hand into a hole or a bird's nest. Also in the bag are some small plastic containers, which fit into one another (film cannisters, if well washed, are handy for small animals, as are screw-topped plastic jars). If you think you might meet a Spitting Cobra, then you'll need goggles (or a wrap-around pair of sunglasses). It goes without saying that you shouldn't go into the field without a pair of stout comfortable shoes or boots that preferably cover your ankles, for you'll be turning rocks and logs and walking distances. Take some insect repellant, sun-tan cream, aspirins, and your map. If you're going to spend much time in the field then take plenty of drink and maybe something to eat. If you're going to be out late, take your torch. A good pocket knife may also be useful. That's that basic stuff – if you feel that's too much, you may want to follow the example of a friend of mine, an American herpetologist, whose field equipment consisted of a water bottle, one bag in his pocket and a pocket knife to cut himself a stickwith! Enthusiasts may want to add to their field equipment some plastic bags (good for amphibians), a digging tool (a little trowel is very useful, but a shovel is only practical if you're working from a vehicle), binoculars, camera equipment, a cloacal thermometer, field guide, phrase books, some small change to pay local helpers, a 2m piece of thin plastic tubing (used to thread down holes so you don't lose your way while digging them out) and thin wire and fishing line for noosing lizards. But remember, success for the field herpetologist depends on mobility: don't overload yourself!

If you are really keen, then before you go, find out what the local languages are, get yourself a phrase book and learn a few useful expressions, such as "Hello", "I am hunting for snakes", or "I will pay so much if you can show me snakes", etc.!

Remember that much of Africa is malarious and there are some nasty diseases. Take malaria prophylactics before, during and after your trip; get your vaccinations (especially typhoid and polio) in plenty of time. In the field, be careful as far as possible with what you eat: tummy problems will prevent you travelling and collecting, and beware of the sun, especially between 10 am and 4 pm. Be very wary about entering water, for as well as obvious dangers like crocodiles, most African water bodies will contain the parasite that causes schistosomiasis (bilharzia). If you're an amphibian enthusiast, consider taking your wellies or waders. If you have to enter water, dry yourself off smartly and thoroughly as soon as you leave the water. Get yourself medically insured before you go – it costs less than you think, and can save a lot of hassle. If you're going to catch dangerous stuff, then remember that medical aid may be a long way away, inexperienced or even non-existent, expensive, and treatment for a bite may involve a blood transfusion (you all know about AIDS). Deliberately catching dangerous snakes probably invalidates your medical insurance. If you're still keen, consider taking serum (I'm happy to point out serum sources to those interested) but remember that it needs to be kept cool and you should not use it yourself; if you are bitten take it with you to a doctor.

In the field ..... use your map to pick good collecting sites (and if your aircraft lands or overflies your area, have a good look out the window!). If you're offered a choice of places when booking your holiday, see if you can locate any of them on the map, which will give you an idea of the available habitats. Semi-rural areas are often good, as there will be junk around for turning, and often remarkable lizard colonies around habitation. Hill slopes, rocky outcrops, kopjes and sheet rock will be good for skinks and agamas, the edges of areas of

bare ground (even if artificially cleared) and road verges may have a population of Lacertid lizards or small agamas. Abandoned farms, quarries and sawmills (especially in forest) and any water sources are good collecting sites. For sheer visibility of reptiles in Africa, there is little to beat rocky outcrops in semi-desert or savanna.

Open desert is a tough place to collect. There is limited depth of field, you won't have to climb trees, but it can be an exhausting place to hunt. Use your time sensibly, get going at dawn. In dune country, hunt on the sheltered side in the day; best results will be after dark. Look for wadis, seasonal river valleys, as these often contain vegetation, and also for broken ground and boulder piles where there will be shade during some of the day, of great importance to diurnal desert reptiles. When travelling on desert roads, check culverts and drain tunnels, excellent for geckoes. Hunt at night (I'll come to this presently). High forest is also a tough proposition, the reptiles and amphibians are there but hard to find as there is so much cover and the habitat ranges from 5m down to 50m up, of which you can only search a few metres depth. Collecting in forest requires specialised techniques, one of which is night hunting. During the day, look for habitation, abandoned or used, around which there will be cleared ground and cover to turn. In primary forest, try debarking trees and raking through leaf litter. Look for river valleys: the litter is less deep on the slopes and there will be fallen logs and protruding rocks, and rocks in the streambed. Dig in the soil and leaf mould around the base of big trees. Shake small trees and bushes to start immobile tree snakes into motion. Smoke out hollow trees (taking care not to start a fire). In secondary forest, where the growth is thicker and lower, keep looking up: tree snakes have pale bellies. Go slowly, watch for things moving off ahead of you, or basking in open sunlit glades. Snake hunting in high forest is the one place where it's worth having a 2 or 3 metre grabstick.

If it's practical on your budget, consider hiring a vehicle, even just for a day: you can survey collecting sites and choose likely ones to be later reached on foot. (N.B. If you are intending to hire a vehicle, book it up beforehand if possible and find out the terms and conditions; hiring a car in many African countries is much more dicey than Messrs. Hertz and Avis would have you believe!).

Choose the right times to go into the field. It is inadvisable to hunt in the heat of the day: you run the risk of heat exhaustion, dehydration and sunburn, especially if not used to a hot climate. In really hot countries even reptiles are not active in the hottest hours. Make short trips initially. Very early morning is a good time to start hunting; nocturnal animals will have moved under ground cover and diurnal animals will still be there and cold, hence easier to catch. As the day warms up, you'll see things coming out to bask. Around 11, follow their example and take a siesta, recommencing in the late afternoon. Evening is a very good time; a surprising number of nocturnal animals will move up to the mouths of their holes as dusk approaches, sitting and watching, and frogs start to call.

For daylight work in the field, there is little better technique than walking slowly, keeping your eyes open and turning ground cover. Rake through the soil under rocks and logs when you turn them; fossorial creatures may be hiding there. Stumps and fallen logs can be debarked, rotten logs broken up – good places for amphibians and egg clutches – but it should go without saying that ground cover should be replaced, and do your best not to destroy habitats. Snake enthusiasts in South Africa have been known to smash every exfoliation slab off kopjes in their hunt for crevice-dwelling snakes, ruining the habitat and exterminating the local population. Don't be greedy and wipe out colonies if you strike lucky.

Abandoned farms and houses are good places for grass heaps and brush piles, which should be raked over. Termite hills with open holes on the exterior are good hiding places and worth watching for basking animals (but please noose such animals: these hills are part of the African landscape and smashing them down or pouring chemicals into them completely destroys them for habitats). Watch for tracks, especially in sandy areas in the early morning. Snakes and lizards often leave obvious spoor; perhaps you can track them back to their holes or even find them buried just under the sand. In the early morning, tree snakes are often sunning on the outer and upper branches on the eastern side of trees. Later in the day, they may be in the densest part – look with your binculars into the clumps. Trees with bird nests (especially colonial birds such as weavers) attract snakes such as Boomslangs, Egg-Eaters and Cobras.

In open country, isolated big trees should be checked: reptiles may be in the shade, buried in soft soil under and around roots, lizards may be sheltering in cracks on the trunk. Areas with many rat runs and nests will attract rodent-eating snakes; look for tracks entering a hole, or holes with clear entrances, no cobwebs and looking used (N.B. holes with a broad, shallow entrance, the upper side conspicuously curved, are usually scorpion holes). If you don't want to dig out a hole that seems to be occupied, you can put some chloroform or petrol down, or put some mothballs in the entrance and fan the fumes down, but remember the fumes can damage your quarry and have long term effects on the environment: use such chemicals sparingly and never in colonial habitats.

Rocky hills are good habitats, with plenty of refuges. Use your torch to peer into cracks and under exfoliating slabs; get high up and use your binoculars. If you want to catch something hiding under a slab, put down a big bag for it to run under when you lift the slab.

Once in a while, sit down in a shady place, look and listen. Watch birds of prey quartering (especially Snake Eagles, also known as Harrier Eagles) and see if you can spot what they catch: it may lead you to a lizard colony. Certain bird species – especially bulbuls and sunbirds, and sometimes babblers – will mob snakes. Their calls can be heard from a distance; if you hear them cursing follow them up (bearing in mind they may be mobbing an owl or a domestic cat!).

If you're collecting near habitation, you will acquire a retinue of small boys; enlisting their help can be very profitable, and a little money goes a long way – BUT remember that if you encourage them to catch stuff and someone gets bitten, you're in trouble. Encourage them to point out stuff to you and reward accordingly. If they do start catching things, either refuse to buy or warn them never to touch a snake (they probably know already, but the coins you offer as reward may be a small fortune to them – if a snake appears to be about to escape before you get there they may do something rash). Taking an illustrated field guide or a selection of photographs is a good idea; you can show them what to watch out for, what you want and, if you're interested, find out some local names.

There are various techniques for collecting lizards, especially where there is too much cover to simply chase. Going at dawn when they're cold is one. Many lizards will let you approach to within a metre or so if you move slowly and their refuge is not far, and noosing, with a fishing rod, thin bamboo rod or car aerial fitted with a running noose of fishing line works well for Crag Lizards (Cordylus) and Agamas. If you're after museum specimens, you can try shooting them with rubber bands cut from a car inner tube (this method isn't recommended if you want healthy undamaged specimens!) In sandy country, chase your specimen into its hole and carefully dig it out (watching out for other inhabitants of the hole), or find the hole, wait until your quarry is out, then slip a sock or a boiling tube inside the entrance of the hole (or a stout net if you're after a monitor lizard!) and chase the animal back. Work in pairs if possible when hunting snakes and lizards; you remain motionless and your friend chases the quarry towards you.

If you should find a fast moving snake such as a Bush Snake (Philothamnus), Sand Snake (Psammophis) or Racer (Coluber) (or a Mamba!) resting near cover, give the snake a chance to settle and then approach it very slowly and obliquely, bringing your head or grab stick up very slowly – you should be able to seize it. If it does dash off, remember that such snakes rarely move far (while moving they are vulnerable to birds of prey) and a careful look around will probably reveal the snake lying quietly nearby. Don't rush, plan your approach. In likely spots, look carefully before walking in; if you can spot your quarry before it spots you, then you've got a big advantage. With most nocturnal snakes, once you've found it you've got it.

Tortoise enthusiasts – your quarry will be active in the early morning and late afternoon. If you can get to a vantage point and watch the country below, using your binoculars, you may see one moving. The smaller southern African species often take cover under rocks and logs during the day. You can also arm yourself with a stout wooden pole, such as a broomstick or billiard cue, for poking down likely holes; a tortoise in such a hole makes a very characteristic thwock when poked with a pole. In sandy country, tortoises can be tracked, and this is one time when it is worth waiting until the heat of the day, then you can follow up the animal

and find where it has taken cover. To initially locate a track, drive in the late morning along a dirt road and look for spoor. Crocodile and turtle enthusiasts may also be out in the heat of the day, checking suitable sites (semi-submerged logs, rocks, beaches) for basking specimens. Crocodile watchers can also go out at night with a torch, for crocodiles like to come close inshore at night. Hold your torch close to your head and you will see red eyeshine (but remember that crocodiles do come onshore at night, and in some areas of Africa they are notorious man killers).

Amphibian enthusiasts will of course be looking for fresh water sources, but bear in mind that amphibians can often be found in quite dry areas at night, especially if rain has fallen recently. During the day, amphibians may be under well-seated ground cover, in rotten logs, hiding between leaves or between the leaf stalk and the stem of certain plants (especially bananas), sitting on reed stems or leaves (especially of monocotyledenous plants in wet areas), in shady bushes or down holes, inside flowers or under bark and in leaf litter. Around buildings, look for pits and cattle dips, which act as amphibian traps; in water storage tanks, especially on the sides just above the water; under rocks around standpipe and tank taps, in water meters, in bathrooms and toilets, under baths, in and behind cisterns. Check around outside lights at night, where amphibians gather to eat insects (these are also good places for geckoes).

Night hunting can be very rewarding. Most species of African snake and nearly all amphibians are nocturnal and lizards can be caught easily as they are slow to move. However, a few initial words of precaution.

When night hunting, by vehicle or on foot, don't go into areas that you haven't surveyed beforehand during the day. You may get lost (and if your torch then goes out you're in trouble), wander into danger (e.g. into a swamp, near a cliff or into the prescence of big game) or into a security area, such as a police or military installation. In Egypt, checking a suitable road for night cruising, I once drove into a missile site. In the daytime, nobody minded: at night it might have been a different matter. Check the ground before you go.

Night cruising is driving slowly at night along roads, picking up animals crossing the road or sitting on the road absorbing heat from the surface. Tarmac (metalled) roads give the best results, as reptiles show up well on them (although their eyes do not shine). Snakes look like pale lines on the road, geckoes and amphibians as pale lumps of the appropriate shape. Dirt roads are also productive, although you have to look more carefully and go slower, and there are often sticks and other debris on them that look like reptiles.

If youre going to hire a car and use it for night cruising, then when you collect it check, apart from the obvious things like has it got a properly inflated spare wheel, jack and wheel spanner, that (a) it has headlights (no joke), (b) they work on both full and dipped beam, (c) they can be adjusted (if properly adjusted, they'll be slightly too high for night hunting, if not, they may be pointing anywhere); (d) the instrument panel lights up when the lights are on; (e) the brake, indicator and hazard warning lights work.

The best time for night cruising is just after dark, when it is warmest and the road surface retains some heat, encouraging reptiles to bask on it. If rain has fallen during the morning or early afternoon, so much the better. Late afternoon and evening storms tend to depress the temperature; you will get more amphibians but fewer snakes, unless the late storm happens to be one of the first of the season. As the night cools down, the numbers of active animals will decrease, but there are certain species that favour a low temperature – this is the ecological niche they inhabit. Examples of such species are the Burrowing Vipers *(Atractaspis)* and Shield Snakes *(Aspidelaps).*

Drive slowly when night cruising, about 30 km per hour; even at that speed you'll overrun specimens: the smaller animals often don't show up until you're almost on top of them. This is why motorcyles are better for road cruising than cars; you get a much closer look at the target and can turn more quickly. Pick a quite road – you don't want other vehicles around – and be very careful, especially at dusk. This is the time when vehicles without headlights (not an uncommon sight in some parts of Africa) will be rushing to get home. If feasible, don't drive towards the west at dusk, when the afterglow makes it difficult to see the road surface. Raised roads are not so good as ones that are level with the country, and roads

with deep concrete drains on both sides are a dead loss. Choose roads in uninhabited areas; roads along valley bottoms, beside swamps or rivers or through forest are excellent. In forest, shine your headlamp or torch into the trees once in a while for sleeping tree snakes, which look white in the beam.

Don't go night cruising alone. If there are two of you, then when a snake is seen, one can get out and start catching while the other gets the car off the road. Never be tempted to leave the car standing in the middle of the road because "the snake is escaping and the catch will only take a few seconds". It may not and your car could cause an oncoming vehicle to crash. If someone comes up behind you when cruising, let them get past and never brake hard when someone is close behind you. Don't jump out into the road – an unlighted vehicle may be behind you – and when you're out, don't flash your torch at oncoming vehicles – it may confuse them (and in many parts of Africa, a torch flashed at oncoming cars is a signal of a police or military road block).

Everyone in the car should have a good torch. Also useful is a plastic bag full of sand, or something similar: if you overrun a specimen, your partner immediately drops the bag out; when you have turned it will show you roughly where the specimen was; distances (especially when slowing down) can be hard to judge at night. I have found hard containers better than bags at night – specimens can be simply dropped into them.

Initially, until your eyes are attuned, you'll probably miss a few specimens. It's always worth going back to check the "might have beens", which often are. If you do come across a poisonous snake, remember that it may be very active – catching a Puffadder at night is quite a different proposition to catching one during the day.

Don't drive for too long at night; take turns and if you find you're getting tired, get home before you make a mistake.

Night hunting on foot is also productive; you will cover less ground but can search in more detail. Before you set out, see if you can change your torch bulb in total darkness! (or perhaps take a small spare torch). Start with your immediate surroundings, bearing in mind the need to be circumspect if you're staying in a hotel; managmenet and fellow guests may not be happy about a fellow occupant having snakes (or lizards, many species of which are regarded as poisonous in Africa) in his/her room. Consider finding the night watchman and explaining what you're doing – you don't want to be mistaken for a prowler and he may even know where some specimens are.

Look for geckoes around the lights, amphibians around the taps and ponds. Walls, especially long ones, are excellent snake traps: a snake meeting one will start crawling along beside it. Check both sides and look on the wall for geckoes. If the skinks and agamas on the walls and trees and culverts have eluded you in the day, catch them sleeping. Turning ground cover at night is a good way of catching diurnal lizards. Check around those big immovable rock piles, heaps of building debris or open termite hills; whatever is hiding in there may be coming out.

Reptiles moving at night often make a surprising amount of noise, especially in well vegetated areas. Once in a while, sit down, switch off your torch and listen. If you're walking along a road, look for animals basking on the tarmac (checking roads very early in the morning may reveal road kills, giving you an idea of what is in the area). Shine your torch on trees and bushes; chameleons and sleeping snakes show up remarkably well in torchlight: they look white and are obvious from some distance. Hunt alongside water courses at night; as well as amphibians there may be frog eating snakes active on the ground or asleep in the reeds or trees beside the river. Working water courses at night is an excellent technique in forest. On rocky hills, geckoes will be out and are slow to react at night. Isolated rock slabs may be used as basking sites: they retain heat. In urban areas and along roads, look in ditches and drains, especially deep concrete ones. As well as finding larger animals crawling along the bottom, such drains often act as traps for smaller, burrowing reptiles. During the day, ground cover lying in dry drains is well worth checking.

There are, of course, more advanced collecting techniques than those I've mentioned; if you're ambitious, or planning a larger scale trip, you may wish to try some. One is setting a drift

fence. It doesn't need a lot of equipment, just some rolls of plastic sheeting and some large plastic bags to use as pitfall traps, plus a digging tool. To support the fence, cut yourself sticks (for details on more advanced drift fencing and traps, see Vogt and Hine (1982)). If you're going into forest for a while, consider finding a sawmill and asking if you can accompany a logging team. In villages, contact the chief and ask him to spread the word that you're in the area and will pay for reports. Find out if there are any recently constructed dams in the area: water rising will drive stuff out of their refuges. If there's a school in the area, have a chat with the headmaster about getting pupils to report reptiles – you might find yourself dragooned into giving a talk to the pupils, but in return you could be directed towards plenty of specimens. Consider approaching the local department of wildlife; in return for a little of your expertise you could benefit from some of theirs. If you're after aquatic creatures, find the local fishermen and ask about what they see; you might be able to go out with them. Working from a boat, you can check islands and shoreline vegetation.

Some final thoughts on security. In many African countries, people are very nervous about spies, and a white person with maps, cameras and unfamiliar gear poking about in unfrequented areas can arouse suspicion. So be circumspect. Don't take military or paramilitary clothing, especially camoflauge jackets, and watch where you point your camera. Carry documentation – a wildlife permit, CITES import licence or even a good reptile book in your pack can ease suspicion, and a few specimens may break the ice. Travelling and staying in remote areas, consider dropping in at the local police post and telling them who you are and what you're doing. Many people won't like doing this – us British, abroad, tend to believe in our right to go anywhere and do anything without hindrance. But remember, in many African countries, life isn't as free and easy as it is in the western world. In some countries you may find you have by law to report to the authorities in every town you intend to stay the night in (although in countries with a thriving tourist trade this is rarely so). Reporting can save a lot of hassle: they know who you are and if someone comes in later and says there's a white spy poking about by the river, instead of coming after you with guns they'll be able to tell the informer "It's only that crazy snakeman". In addition, you may well engender some interest and even help; I have been snake hunting from a Kenya police landrover on more than one occasion. So be friendly, make yourself known and be prepared to chat to people who approach you.

Lastly, don't be put off by the bureaucracy involved – get organised and go. There is no experience on earth to beat actually being there, and seeing the creatures themselves in the wild.

REFERENCES

Vogt, R.C. and Hine, R.L. (1982). Evaluation of techniques for assessment of amphibians and reptile populations in Wisconsin. In *Herpetological Communities,* Pub. of the United States department of the Interior: Fish and Wildlife Service. Wildlife Research Report 13.