3

The handling and storage of birds

3.1 INTRODUCTION

A bird ringer's primary concern should always be for the safety and well-being of the bird at each stage of the ringing process. This chapter focuses on the best techniques for handling, keeping and releasing captured birds. Birds are usually 'stored' for a period, between the time in which they are extracted from the net, and the time when they are transported to the ringing station, processed and released. The objective is to keep them safe with as little discomfort and stress as possible. The objective is to minimise the period between capture and release.

3.2 EXTRACTION TECHNIQUES

Extracting a bird from a net is probably the most difficult part of the whole netting and ringing operation. To extract a bird from a net is a skill that most people take a good while to acquire; there are very few 'natural' extractors. As with many things, but especially with bird extraction from a mistnet, experience and practice are the best learning methods. Extraction cannot be learnt from a book. When first starting as a trainee bird ringer, one often feels as if one will never master the technique of extracting birds unharmed from a net. Somehow each bird that is caught is different and requires a technique on its own. Suddenly, one day, you start to find that the birds are coming out more easily. For this reason prospective bird ringers have to undergo an extended training period under the guidance of an experienced ringer. Not everyone is able to master the technique; extracting birds safely from mistnets requires some testing character traits: in particular, patience, persistence and compassion. There are lots of people who simply do not have the patience, persistence and fine motor control to work out how the bird has entered the net and disentangle it from the net strand by strand, nor have the compassion to realise that they are dealing with a live animal that must be treated delicately yet firmly and come out of the net unharmed.

Where aggressive birds, e.g. weavers, are close to other passerines, e.g. a waxbill, remove one of the birds immediately.

3.2.1 Guidelines for extracting birds from a net

- ❑ Determine from which side the bird entered the net. This can be far harder than it sounds.

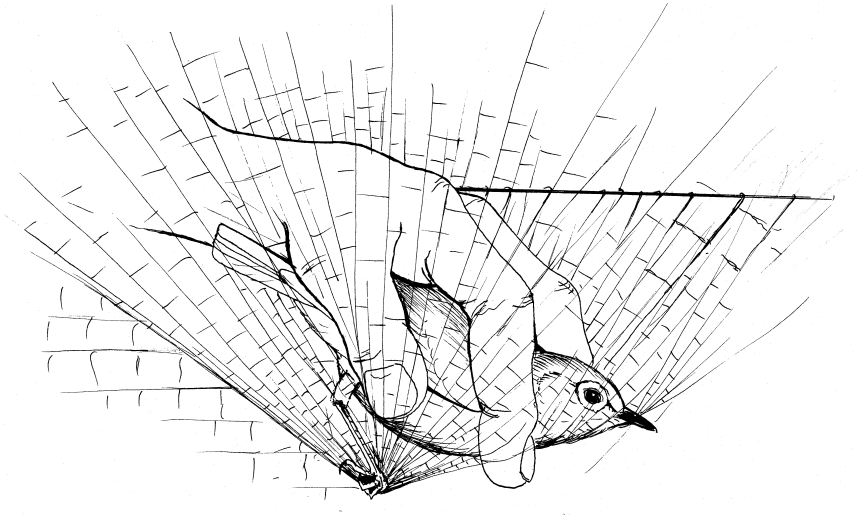

Fig. 3.1. Holding the bird trapped in a mistnet.

- ❑ Remove the larger birds first out of the net when both small and large birds have been netted simultaneously. Larger birds tend not to get tangled badly and often run down the pockets of the net when approached and are prone to escaping. They might even cause injury to smaller birds.
- ❑ Check the bottom shelf thoroughly; birds caught in this shelf can be obscured by vegetation.
- ❑ The birds in the bottom shelf should usually be extracted first; they are the most vulnerable to predators such as mongooses and ants, and are liable to become damp if there is dew on the vegetation under the net.
- ❑ When removing one bird from the net, always make sure not to pull it in such a way that other birds in the net are subjected to tension on the net.
- ❑ When birds are trapped high up in the net, lower it before attempting extraction. This will prevent you working with your arms above your head; this quickly becomes tiring, and you cease to work efficiently.

3.2.2 Extracting a bird from a net

Birds get caught in mistnets in a huge variety of ways, and there is no single universal method that can be followed for every bird. There are however some general principles that help to make the task easier.

- ❑ The steps in extracting a bird from a net should be the reverse of those involved in it going into the net.
- ❑ The first step is to determine from which side it entered the net.
- ❑ Birds which are lying on their backs or sides and which are not too badly entangled can be taken straight away into the standard ringer's hold (Fig. 3.1). This prevents

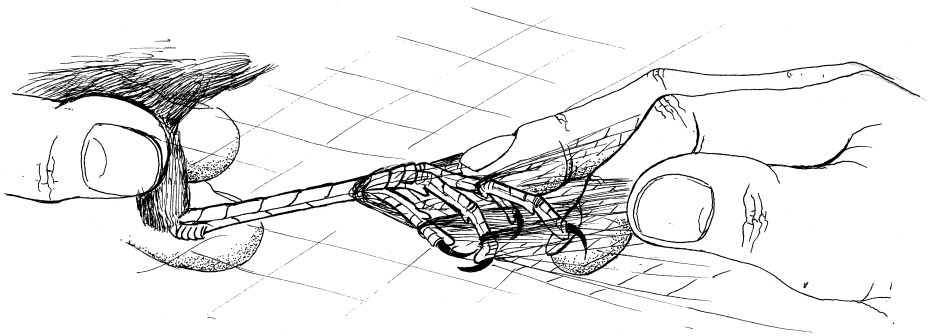

Fig. 3.2. Extracting the feet from the netting.

the bird from becoming further entangled because birds that are in the net in this way are normally not too badly entangled.

- ❑ Depending on the situation the bird is in, one can usually start by removing the net from the one leg; hold the tarsus between thumb and forefinger just above the foot and remove the net by stroking or gently pulling it towards the toes (Fig. 3.2). This often frees the foot and toes from the net.
- ❑ If the net is looped around the toes, always remove the net from the rear toe first by picking on the net strands.
- ❑ Next, free the other toes of the first foot one by one.
- ❑ Now remove the net from the wing on the same side as the first foot, then the head, and then the other wing.
- ❑ Usually by this time the bird has relaxed its feet and the other foot has released the net or is easily removed from the net.
- ❑ This technique is nearly like rolling the bird out of the net.

Occasionally birds get entangled to a much greater extent than this; the golden rules are **DO NOT PANIC** and **FIND THE BARE BELLY FIRST** (Fig. 3.3). When you have found the bare belly, you reassess the situation and decide on the easiest way to extract the bird. From here, for most birds, the following steps constitute a general method to extract the bird.

- ❑ Get a firm but gentle grip on one tarsus and remove the net strands from the foot and toes; when the foot is free, hold it to prevent it from gripping the net again. (If mosquitoes bite when you reach this stage, let them bite.)
- ❑ When the second leg is freed, change the grip so that the ankles are held between the thumb and middle finger with the forefinger between the ankles (never hold a bird by the tarsi as this can cause serious injury).
- ❑ Lift the bird out of the pocket and pull it carefully away from the net.
- ❑ Doing this usually has the effect of removing much of the net from the wings and body.
- ❑ Now first remove the net from the tail and back and then the one wing.
- ❑ After this, free the other wing and then the head (Fig. 3.4).

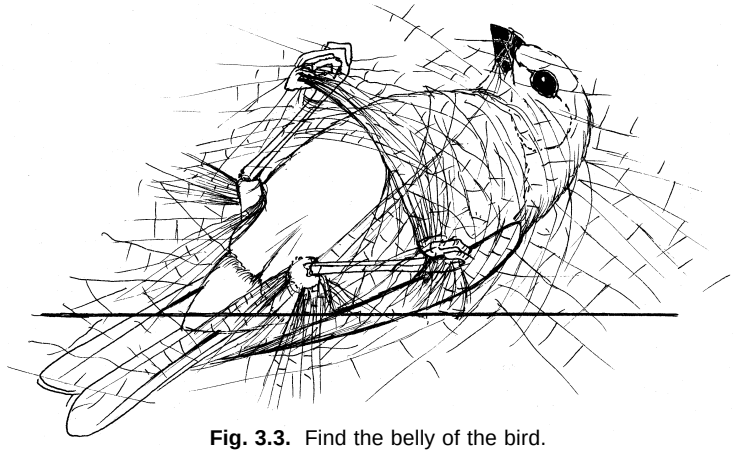

Fig. 3.3. Find the belly of the bird.

More difficult situations arise when birds are double-pocketed or twisted in the net. These problems are worst on windy days. Another particularly bad case can result when a bird flies into the net right next to the pocket-spacer string and ‘wraps’ itself around the string a few times. In situations like these it is critical to remove the net ‘layer by layer’. In the case of twisting, the twist should be undone in the sequence in which it occurred. Some of these cases occasionally perplex and create a lot of perspiration even for the most experienced ringer. Most cases, however, are quite easily overcome as experience is gained.

There are still two more areas that can cause considerable difficulties in extracting a bird from a net, the one being the carpal joint and the other being a case of a ‘tongued’ bird.

When birds are caught in a mistnet, the mesh occasionally goes over the closed wing and thus over the carpal joint. Because the wing is one of the most important parts of the body for a bird, the net strands have to be removed without damaging the wing. With small birds one can simply open the wing gently and the net will slip off by itself or it will slacken enough so that it can be lifted off. When the net is caught more tightly, push a finger or thumbnail under the net strand on the underside of the wing and lift it over the joint. When doing this, be careful not to damage the feathers, and try to lift the net over the carpal joint from the body’s side towards the wing tip. For birds that are very tightly ‘carpalled’, this procedure cannot be followed as it will damage both the feathers and the carpal joint. Here it is necessary to pull the rest of the wing gently through the mesh square. This is done by carefully bending and pulling the primaries through the mesh square that has trapped the carpal joint. This leaves one strand of net around the base of the wing that slips off the wing remarkably easily. Although this procedure does cause the feathers to look rather ruffled, the bird sorts itself out by preening the wing as soon as it is released.

Occasionally birds get ‘tongued’ in the process of mistnetting. Although this does not happen frequently, it seems that the weavers, bishops and thrushes are more prone to this than other families. The reason for birds getting ‘tongued’ is that they have two backward-facing barbs on the upper part of the tongue; the net strands can get caught

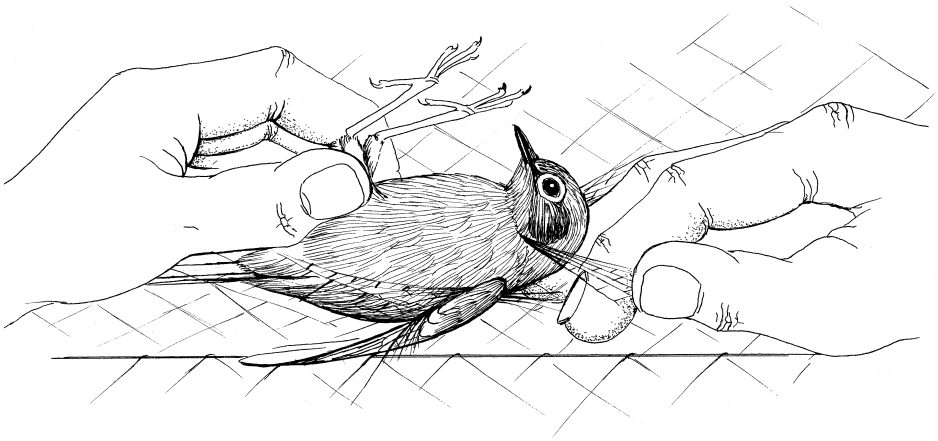

Fig. 3.4. Extracting the head.

behind either one or both of these barbs. If this situation occurs, do not pull the bird away from the net as this puts tension on the net and thus causes injury to the bird's tongue. The net strands that are caught must be lifted backward over the barb. This operation is easier if a small tool such as a 'quick unpick', a crochet hook or even a small twig, is used to lift the strand over the barbs. Every now and again a birds gets really badly 'tongued', and the easiest thing to do is to cut one strand of the net and free the tongue.

Some species bite, scratch or claw the extractor. Getting the bird as quickly as possible into the ringer's grip reduces the number of injuries to the ringer's hands. It does require a rather special kind of personality and a high pain threshold to remove a badly caught barbet from the net without losing one's sense of humour. Some individuals of a few species scream blue murder for the whole period you spend taking them out of the net; it is very important that you do not let this rush you and harass you.

Skills in handling all these difficult situations are best learnt from an experienced ringer. At the end of the day, it is the ability to handle most of these mistnet extraction problems routinely that finally helps determine whether a trainee is capable of ringing independently, and is ready to receive a ringing permit. One of the reasons why it takes such a long time to train as a ringer is that the difficult situations arise rather rarely. A trainee should take encouragement that the end of apprenticeship is at hand when the trainer starts leaving all the difficult cases, and especially the 'tongued' weavers, the badly caught barbets and the 'screamers', to the trainee.

3.3 HANDLING BIRDS

It is best to get a good grip on the bird as soon as it has been removed from the net, trap or holding unit in the ringer's hold. Use your non-dominant hand, i.e. if you are right-handed, use your left hand and vice versa.

Fig. 3.5. Ringer's hold.

3.3.1 The ringer's hold

The ringer's hold is a firm but gentle grip on the bird with its wings closed and its back against the palm of the hand with the head between the index and middle finger, with the ring and little finger lightly closed around the lower part of the bird's body (Fig. 3.5). The leg can then be easily held between the thumb and index finger so that the ring can be fitted. In alternative methods the leg can either be held between the thumb and ring finger or between the thumb and middle finger. A ringer needs to be able to transfer a bird from one hand to the other and from one grip to the other. Quality bird ringers are not known for the number of birds they ring but for how they hold and handle birds.

3.3.2 The standard hold

This is the hold that comes naturally to most people. The bird is held with its back towards the palm of your hand and with the four fingers around the body and the thumb across the throat and chest (not illustrated). The thumb and encircled fingers are held in such a way as to prevent the bird from flapping and struggling. With this hold it is not possible to ring the bird safely. It is dangerous for the bird because, to prevent the bird from flapping, pressure on the chest needs to be applied by the thumb. Ringers should never use this way of holding birds, however, natural it might feel.

3.3.3 The reverse hold

It is similar to the standard hold but the bird faces the opposite direction, with the head towards the wrist and the tail protruding between the thumb and index finger and the other fingers across the chest (Fig. 3.6). The reverse hold is not a convenient hold if measurements are to be taken.

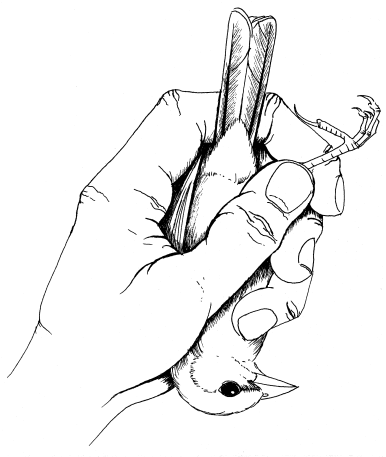

Fig. 3.6. Reverse hold.

3.3.3 General rules for handling birds

- ❑ Hold birds firmly enough to prevent them from struggling but not so tight as to put pressure on the body. If they are held too tight, breathing is restricted and the bird will start gasping. Beginners tend to exert too much pressure on a bird for fear that it might escape.
- ❑ Gasping is the warning sign that the bird's breathing is being restricted either by too much pressure on the windpipe or on the internal air sacs. Trainee ringers should be instructed to observe the breathing behaviour of the bird in the hand. A casualty due to restricted breathing can occur very quickly, but it seldom happens without the warning sign.
- ❑ Avoid pressure on the abdomen in the breeding season as females may be carrying eggs in the oviduct.
- ❑ Some birds tend to struggle in the hand, e.g. the Lesser Honeyguide flicks its wings and pulls its head back; mousebirds often do the same. These birds must not be held too loosely, not only because they can escape, but also because they may hurt themselves in the process. Trainees should only be allowed to handle these peculiar species once they have some experience.
- ❑ Birds too large to hold in one hand should be handled by two ringers, the one holding the bird and the other to put on the ring and take measurements. If you are alone, the bird can be put on its back on your lap with your knees kept together. Cover the bird with a cloth so that only its legs are free.
- ❑ Care should be taken when working with herons, darters, gulls and some other larger birds which lunge with their beaks at the ringer. To prevent injury, cover the bird's head with a hood or a bird bag.
- ❑ Raptors attack with their talons and not with their beaks. Cover the head with a bird bag or a hood to calm the bird down and get a firm hold on both of the legs. These birds should preferably be ringed and measured by two persons; one holds the bird while the other puts on the ring and takes the measurements. Do not put your trust in the story that a stick should be placed in their talons to grip while you handle the bird.
- ❑ When opening the wing for examination, take great care not to place strain on the wing muscles. Do not spread the wing more than is absolutely necessary and do not give any sudden jerks; spread the wings gently as in natural movement. Keep the hands as dry as possible, as perspiring hands may quickly disarrange feathers and make examination more difficult.
- ❑ Avoid prolonged handling.
- ❑ The safest method for passing a bird from one ringer to another is to put it back into the bird bag. Alternatively it might be held by the tibia while the other ringer takes it in the ringer's hold.
- ❑ Occasionally, ringers have fatalities. If at all possible, dead birds should be carefully labelled with date and place, placed in a deep freeze in a plastic bag, and transferred to museums or researchers.

3.4 KEEPING BIRDS AND TYPES OF CONTAINERS

After birds have been removed from traps or nets, they need to be stored or kept in something until they are processed. Containers with birds in them should be placed in a cool spot on hot days and in a warm spot out of the wind on cold days. Birds should be kept for as short a period as possible.

3.4.1 Bird bags

Bird bags are the most widely used device for keeping birds. From the ringer's perspective, they are light, compact, cost-effective and are easily cleaned and maintained. For the birds, they are well ventilated and reduce stress, because they are not aware of humans and other birds in unusually close proximity.

Bird bags should be made of a soft material, such as used for sheets. Bags of different sizes can be made for different-sized birds but a popular size is approximately 250 mm long and 180 mm wide; these can take birds up to the size of doves. The drawstring at the top of the bag should be made of a soft material or string that is long enough to loop around the neck of the closed bag with a simple half hitch. This prevents birds from escaping. These drawstrings are also ideal for hanging the bags when full. Drawstrings can be of different lengths to suit each ringer, depending on the manner in which the bags will be carried, around the arm, around the neck or any other way. This keeps the hands free for extracting other birds.

The rules for using bird bags are almost entirely common sense, and obvious:

- ❑ Do not place bags with birds in shelf-pockets of mistnets because this will put more tension on the net and may also complicate the removal of other birds still in the net.
- ❑ Each bird should be kept alone in a bag; if it ever proves necessary to break this rule, put birds of the same species together in a bag. Individuals of the more aggressive species must always be kept separate.

- ❑ Devise a system whereby birds waiting in bags in the queue for ringing are processed in roughly the order in which they were caught. Each bag in the queue should be well spaced from the next. Some ringers use a plank of wood with a series of hooks. Others simply use a round pole; birds are placed at one end on arrival, shifted along systematically and removed for processing from the other end.
- ❑ Do not carry too many birds together and avoid mixing large and heavy birds with small ones. While birds are being carried in bags, they should not be swung, or bumped against bushes or other objects.
- ❑ Never place bags containing birds on the ground where someone may stand on them.
- ❑ Never place bags containing birds on the seat of a chair where they may be sat on.
- ❑ Never hang bags containing birds in places where they may be forgotten.
- ❑ Never hang bags containing birds over water, not even temporarily.
- ❑ Never place bags containing birds on a flat surface such as a table because the birds may start moving and fall from the table with possible injury.
- ❑ Hang bags sufficiently far above the ground for them to be out of reach of any possible predators.
- ❑ Bags should be turned inside out every time after the bird it contained has been released, to remove droppings and any other debris that may have collected inside it.
- ❑ Before opening a bag to process a bird, check its position in the bag. If it has climbed up towards the neck of the bag, gently work it down to the bottom before opening.
- ❑ Wash bags regularly.
- ❑ Check bags for open seams and frayed material, and repair or trim; if this is neglected the bird may get unnecessarily entangled.

3.4.2 Cages

Cages made of mesh wire or wire bars are not recommended. Wild birds will always attempt to escape from a cage out of which they can see, and may damage their beaks, ceres, heads, feet and claws. Covering the cage with shade-cloth or cloth material may help reduce stress and calm the bird.

3.4.3 Boxes

A holding box is made of wood or other suitable material with a sleeve over the entrance to prevent birds from escaping. A number of small holes of pencil size must be made in the sides and the top of the box to provide ventilation. A carry strap or handle may be fitted to the box for easier handling. Shoulder straps allow both hands to be free. Boxes may be divided into several smaller compartments to prevent overcrowding, and to keep species separate. Such boxes provide a good system for holding birds. Because the boxes are reasonably dark inside, birds remain calm and suffer little stress. The disadvantage of boxes is that they are usually heavy and bulky, and they are usually difficult to keep clean inside. Holding boxes with shoulder straps usually provide the best method of transporting birds from the nets to the ringing table when the nets are placed over water, for example, when catching waders.

3.4.4 Keeps

Keeps are usually enclosures made from a hoop or arch of galvanised wire or aluminium covered by shade-cloth, hessian or mutton cloth. These keeps are handy when catching large numbers of birds such as waders, swallows, swifts and martins. For waders, the hoops are made of stiff galvanised wire or aluminium and are pushed into the ground and covered with shade-cloth. The cloth must be weighed down at the sides, often with sand, so as to make contact with the ground. Sleeves with drawstrings are required at each end from which the birds can be removed.

Another type of keep for smaller birds can be made from three or four stiff galvanised wire or aluminium hoops, 300 mm in diameter. Fix a sleeve of nylon shade-cloth of about one metre in length over this, spacing the hoops equally and sewing them fast onto the shade-cloth. Leave enough cloth at the top so that it can be bound together. To this a piece of strong rope or hook is attached from which the keep can be hung. Leave enough material at the bottom to make a sleeve with a drawstring through which the birds can be placed into or removed from the keep. These keeps have the advantage that they are collapsible, small and light.

3.5 RELEASING BIRDS

When releasing a bird, put it on your open hand, not too high off the ground; let it gather its senses and fly off in its own time. Never throw a bird into the air. With waders and doves place them on the ground where they will walk away and fly off.

Swifts and large birds with short legs and long wings should be held facing the wind to help them take off. Seabirds should be released towards the sea. On shorelines and islands, birds should not be released in a position from which strong winds might blow them out over the sea or lake.

Always release birds well away from mistnets to avoid immediate recapture. If two or more birds of the same species are caught together, possibly a mated pair or family party, release them simultaneously. When you suspect that you have caught part of a family party of adults and their recently fledged young, give the birds you have caught priority in processing, take them back to the place where they were captured and release them there; this ensures that the group re-establishes itself as rapidly as possible.

3.6 HOLDING TIMES

There seems to be no hard-and-fast rule as to the maximum time a bird can be kept before being processed, except that it should be released as quickly as possible. A useful guideline is never to have more birds waiting in the queue to be processed than can be managed in one hour. If it is extremely cold or extremely hot, the total time between capture and release should be even shorter.

There are exceptions to this rule. If birds are caught around dusk (and this usually involves catching birds in large numbers on their way to a roost), those birds which are not processed before it is dark can (and usually should) be kept overnight and released at or near the capture site at first light the following morning. If birds are to be kept overnight, the following precautions need to be borne in mind. Hold the birds in well-separated, well-ventilated bags or in boxes or keeps in which the birds are well spaced.

The holding area needs to be airy but not windy, and access by any form of predator should be impossible. Establish the time of first light, and set your alarm clock.

Use the **'first in, first out'** (FIFO) principle. Birds should be processed in the order in which they were caught or brought to the ringing table. Special care should be taken when one team does the extraction from mistnets and another team does the ringing. There needs to be a system by which the most recently trapped birds are not mixed with the birds trapped earlier. The FIFO rule should be overruled when you have caught:

- ❑ a breeding female
- ❑ a parent possibly feeding young
- ❑ an immature still dependent on its parents
- ❑ one of a family group or breeding pair which may move off
- ❑ a bird that shows any signs of stress, for example because it was difficult to remove from the mistnet
- ❑ a species known to give problems. For example, most species of terns are reluctant to fly off after release if they have been held in a poorly ventilated keep for too long (this appears to be a temperature-related problem). Where there are indications that a species is a problem, inform other ringers by submitting a short note in *Safring News*. If you find a solution to the problem, do likewise. For terns, the secret is to catch them in small numbers, keep them individually in very airy boxes, and process and release them within half an hour.

3.7 TRANSPORTING BIRDS

Birds may not be transported from the place of capture, with the following exceptions:

- ❑ The birds were caught at dusk, and have been kept overnight, in which case they must be returned to the same spot at first light the following morning.
- ❑ Birds are being trapped for research purposes. In this case permits must be obtained from the relevant conservation authorities, and clearance must have been obtained from the animal ethics committee of the institution to which the researcher is attached.

Sometimes ringers are approached to trap and remove birds that are being a nuisance or doing damage. The threat is made that the birds will be destroyed, often illegally, unless removed. Ringers have no authority to do this; they should ask for a few days' grace and seek guidance from the appropriate conservation authority as to the suggested course of action.

3.8 MASS RINGING

Sometimes ringers are called upon to help with large-scale ringing associated with research projects. This may vary from catching a few hundred waders or weavers for a postgraduate student, to catching thousands of swallows or queleas for an internationally coordinated project. Whenever you are part of a team aiming to catch and ring more than a hundred birds in a session, special methods are needed.

In mass-ringing situations, there are two essential components: leadership and teamwork. Someone must have the respect and the authority to take decisions; these qualities are based on experience. The remainder of the team need to be followers, and carry out the tasks delegated to them by the leader to the best of their ability. Remember that it is the welfare of the birds that comes first, not the egos of the team members. The decisions that have to be taken by the leadership include the composition of the team, where the mistnets are to be sited, and the delegation of tasks such as putting up and taking down nets, being an extractor, a ringer, scribe or coffee-maker. In taking these decisions, the leader generally weighs up the skills and abilities of each team member. If a team member feels hard done by, wait until the last bird has been processed, and then discuss the problem with the leader. But issues involving the welfare of the birds should not wait, but be raised with the leader immediately.

Leaders of large ringing teams should hold a post-ringing debriefing session; if possible, this should take place soon after the last birds have been released. The main topic to be discussed is: 'How could we have done the job better?' Leaders should be prepared to listen to and accept the suggestions (and even criticisms) of the team members.

In mass-ringing operations, the objective is usually to get as many birds ringed as possible in order to maximise information about movements and survival. The average overall recovery rate with SAFRING rings is about 1%, but this varies greatly between species. If you ring a thousand birds, you can expect roughly 10 to be recovered subsequently. If you are ringing for recoveries, it is usually not necessary to measure every bird (although it is generally valuable to age and sex them). If measurement data are required, consider taking the full set of observations from a sub-sample of the birds trapped. A sample of a hundred birds taken from the total catch at a session might provide adequate indication of the measurements of the entire population at the time. The statisticians in the Avian Demography Unit, of which SAFRING is part, can provide guidance on sub-sampling. The objective is to minimise the average period between capture and release.

The behaviour of the target species needs to be studied intensively over a period leading up to the first trapping attempt. The best time, place and capture methods need to be carefully considered in order to make a success of the first attempt. Bear in mind that there is often only one opportunity. Having decided the hows, wheres and whens, make sure that the team is of adequate size and that enough of the right equipment is on hand and in good working order. Try to leave nothing to chance.

Nets need to be properly anchored and taut. The setting of every net needs to be carefully checked. A large catch in a single net may drag the net down onto the ground where the birds may be subject to predators, moisture, heat or ants. Each pole must also be anchored on both sides, perpendicular to the net, to prevent an empty net being bowled over when a large flocks flies into it from one side, or a full net from being blown over by the wind.

To handle large catches, nets need to be strong. Do not use thin, flimsy or very stretchy nets in situations in which large catches are possible. The overall weight of the birds may tear the net, or drag it to ground level. The Italian (RETE) and North Ronaldsay nets are the best-suited makes for mass-ringing projects.

Temperature considerations are important. Extremely high temperatures by day and low temperatures by night might lead to fatalities in the nets. Rather restrict the size of the total catch by erecting fewer nets and lose none to temperature. If there is the slightest hint of rain, do not go ahead with mass trapping of the birds.

If it is feasible, consider doing the ringing of most birds at the nets as soon as they are extracted. The sample of birds needed for full data collection should usually be extracted first and transported to the ringing centre for processing by ringers who commence this aspect of the operation immediately. The birds ringed at the net need to released in such a way that they do not fly directly back into the nets. Holding bags need to be carried for non-target species, recaptures of ringed birds and birds of any particular interest (e.g. in unusual plumage). Pliers and rings should preferably be attached to the ringer by strap or string, so that it is not possible to drop them. A useful technique is to put the string of rings in a plastic film or pill container with a hole in one end and a string that goes around the ringer's neck attached to the other end. These containers should be loaded and marked before the ringing session starts and should be used in sequence. If the individual birds need to be aged or sexed, either a scribe is needed, or several ring containers must be used simultaneously, one for each age or sex class.

If birds are going to be ringed away from the nets, large numbers of bird bags, holding boxes and/or keeps are needed. One person should be delegated the task of looking after the safety of the birds. Particular care needs to be taken if more than one bird has to be stored per bag; if more than two birds per bag become the norm, it means that preparations for the expedition have been inadequate. To prevent overheating, do not hang bags too close to each other. Some species, such as swallows and martins, are better held in large numbers in holding boxes or keeps. The number of birds per box needs to be carefully monitored; some species stand on top of each other in the corners of boxes if the number per box gets too large. If ringing takes place at a breeding colony (for example, at a quelea colony) birds should be ringed and released as soon as possible and as close possible to the place of capture.

If the ringing operation is to take place at night, headlamps are far preferable to torches. Do not try to extract birds from a mistnet with a torch in one hand; you are liable to injure the birds. Spotlights, motor-car headlights or tube lights also work well. If it is cold, ringers should be dressed warmly. A cold ringer is a potential hazard to the birds. Fingerless mittens are a fantastic invention; they keep the hands warm but allow the ringers full use of the sensitivity of fingers while extracting birds from mistnets.

Especially in the evenings and at night, liberal application of insect repellent helps the extractor to concentrate on the bird in the mistnet rather than the itch on the face. Dress appropriately to reduce the area of skin exposed to insects. It is detrimental to the bird if you are battling to extract it while swarms of hungry mosquitos are intent on your blood.

Similarly, the appropriate precautions must be taken for daytime ringing. Heat is then the main factor to influence both ringers and birds. Ringers must be adequately protected against the elements. Sun-block should be applied liberally and adequate clothing and hats should be worn. Birds and bags containing birds should be removed from direct exposure to the sun as soon as possible. Bird bags should be hung in a shady, airy place. Plan to reduce the size of the catch to numbers that can be handled rapidly in hot weather. No mass ringing whatsoever should take place in rain, or even if rain is threatening.

Hot and cold drinks should be ready and snacks should be consumed frequently. No alcohol should be consumed before or during the ringing session. A session where a thousand birds are ringed may last eight hours or more. The ringer will be on his/her feet and working most of the time. It is worth considering the appointment of one team

member as caterer to take care of the ringers' needs. The programme for the ringing session should be such as to allow ringers enough time before and after the session to rest and relax in comfort. Remember to wash your hands before eating snacks.

The administration of a mass-ringing project is of utmost importance and most of the important work should be done during the expedition. Make a note of the numbers of the ring series to be used, and the order in which they are to used, before ringing starts. The ring numbers actually used should be written down as soon as the ringing is finished. If the coordinates of the ringing site are not known, they should be checked using a GPS or marked on a map. The ringing data should be entered on electronic schedules, carefully checked, and sent to SAFRING as soon as possible. When large numbers of birds are ringed, there is a good probability that the first recoveries will be made within a month or two, and it saves a large amount of administrative complication if the ringing data are already at SAFRING when these first recoveries are made.

Project administration can be simplified and speeded up if a large block of ring numbers is allocated to the target species exclusively. For example, allocate a thousand rings to swallows if this is your target species. The tedium of filling in paper schedules can then be reduced considerably by photocopying the schedules in such a way that only the variants need to be filled in. In electronic schedules it is easy to copy data but care needs to be taken to prevent data errors.

3.9 FIRST AID FOR INJURED BIRDS

Injuries to birds caused by trained ringers are rare (otherwise ringing would not be allowed to take place). However even the most skilled and dedicated ringer occasionally unintentionally injures a bird. Sometimes, birds in a net may hurt one another or even themselves. Sometimes, birds in the net are injured by shrikes or raptors. Sometimes, ringers become the recipients of all injured birds in their neighbourhoods. The ringer should know the basics of how to treat these injuries.

The two injuries that a ringer most frequently has to contend with are minor skin abrasions and birds that are reluctant to fly.

- ❑ Vets have divided opinions on using antiseptics for wild-bird wounds. Antiseptic creams may cause feather pollution. Either leave the wound to heal itself or use an antibiotic powder. Friar's balsam is the best first-aid remedy to stop bleeding.
- ❑ Occasionally, a bird does not fly away when it is released. This is sometimes referred to as wing cramps; some species seem to be more subject to this than others. It is probably caused by stretching of the wing in the net on capture or during extraction or during processing. The best treatment is to replace the bird in its bag and place it in a quiet, warm spot for 15 to 20 minutes after which time it will usually be able to fly away.

It is suggested that all injured birds that are released should be ringed, with the details of the injuries noted down. If the bird is subsequently recaptured, it provides evidence that the bird recovered from the injuries. In cases of serious injury it is better to euthanase the bird rather than letting it suffer.

3.10 BATS

When setting up mistnets prior to dawn, or taking them down after dark, or when leaving nets open to catch nocturnal birds, bats are caught. Bats are potential carriers of rabies, the hydrophobia bacillus. Care needs to be taken to avoid being bitten. On the other hand, bats are a protected species, and must be released uninjured. Normally, if bats are present in any numbers, furl your nets. To remove a bat from a mistnet, hold it by the skin just behind the head and gently pull the strands off, being careful not to damage the wing membrane. It usually helps to hold the bat behind the neck with a bird bag, so that its attempts to bite the extractor are redirected at the bag. Bat removal is carried out more easily by two persons, especially with larger bat species. An alternative method, which some people believe is more simple, is to hold out the finger of one hand, let the bat cling to it, then remove the net strands with the other hand.

Contact people

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