HINTS TO INSTRUCTORS

HOW TO TEACH NATURAL HISTORY

Take your Scouts to the Zoo and to a Natural History Museum. Take them to certain animals on which you are prepared to talk to them. About half a dozen animals would be quite enough for one day.

If in the country, get leave from a farmer or carter to show the boys how to put on harness, etc., and how to feed and water the horse; how he is shod, etc. How to catch hold of a runaway horse in harness. How to milk a cow.

Study habits of cows, rabbits, birds, muskrat, beavers, trout, etc., by stalking them and watching all that they do.

Take your scouts to any menagerie, and explain the animals.

Scouts in many parts of the world use the calls of wild animals and birds for communicating with each other, especially at night or in thick bush, or in fog. But it is also very useful to be able to imitate the calls if you want to watch the habits of the animals. You can begin by calling chickens or by talking to dogs in dog language, and very soon find you can give the angry growl or the playful growl of a dog. Owls, wood-pigeons, and curlews are very easily called.

In India, I have seen a tribe of gipsies who eat jackals. Now jackals are some of the most suspicious animals that live. It is very difficult to catch them in a trap, but these gipsies catch them by calling them in this way:

Several men with dogs hide themselves in the grass and bushes round a small field. In the middle of this open place one gipsy imitates the call of the jackals calling to each other. He gets louder and louder till he sounds like a whole pack of jackals coming together, growling and finally tackling each other with violent snapping, snarling, and yelling. At the same time he shakes a bundle of dried leaves, which sounds like the animals dashing about among grass and reeds. Then he flings himself down on the ground, and throws dust up in the air, so that he is completely hidden in it, still growling and fighting.

If any jackal is within sound of this, it comes tearing out of the jungle, and dashes into the dust...
to join in the fight. When it finds a man there, it comes out again in a hurry. But meantime the dogs have been loosed from all sides, and they quickly catch the jackal and kill it.

**Big Game Hunting**

William Long in his very interesting book, *Beasts of the Field*, describes how he once called a moose. The moose is a very huge kind of stag, with an ugly, bulging kind of nose. It lives in the forests of North America and Canada, is very hard to get near, and is pretty dangerous when angry.

Long was in a canoe, fishing, when he heard a moose bull calling in the forest. So just for fun he went ashore and cut a strip of bark off a birch tree and rolled it up cone or trumpet-shaped into a kind of megaphone about fifteen inches long, five inches wide at the larger end, and about an inch or two at the mouth-piece. With this he proceeded to imitate the roaring grunt of the bull-moose. The effect was tremendous. The old moose came tearing down and even went into the water and tried to get at him—and it was only by hard paddling that he got away.

One of the finest sports is the hunting of big game—that is, going after elephants, lions, rhino, wild boar, deer, and those kinds of animals. A fellow has to be a pretty good Scout if he hopes to succeed at it.

You get plenty of excitement and plenty of danger too, and all that I have told you about observation and tracking and hiding yourself comes in here. In addition to these, you must know all about animals and their habits and ways.

I said that “hunting” or “going after big game” is one of the finest sports. I did not say shooting or killing the game was the finest part, for, as you get to study animals, you get to like them more and more. You will soon find that you don’t want to kill them for the mere sake of killing. Also the more you see of them the more you see the wonderful work of God in them.

**Adventurous Life of Hunting**

All the fun of hunting lies in the adventurous life in the jungle, the chance in many cases of the animal hunting you instead of you hunting the animal, the interest of tracking it up, stalking it and watching all that it does and learning its habits. The actual shooting the animal that follows is only a very small part of the excitement.

No Scout should ever kill an animal unless there is some real reason for doing so, and in that case he should kill it quickly and effectively, to give it as little pain as possible.

. . . then he flings himself on the ground and throws dust up in the air. The jackal rushes in to join in the fight and is quickly caught.

When big-game shooting with a camera, you must have eyes in the back of your head. Otherwise your game may surprise you.
“Shooting” with a Camera

In fact, many big-game hunters nowadays prefer to shoot their game with the camera instead of with the rifle which gives just as interesting results—except when you and your natives are hungry. Then you must, of course, kill your game.

My brother was once big-game shooting in East Africa and had very good sport with the camera, living in the wilds, and tracking and stalking and finally snap-shotting elephants, rhinoceroses, and other big animals.

One day he had crept up near to an elephant and had set up his camera and was focusing it, when his native cried, “Look out, sir!” and started to run. My brother turned around and found a great elephant coming for him, only a few yards off. So he just pressed the button, and then lit out and ran too. The elephant rushed up to the camera, stopped, and seemed to recognize that it was only a camera after all, and smiling at his own irritability lurched off into the jungle again.

Schilling’s book *With Flashlight and Rifle in Africa* is a most interesting collection of photos of wild animals, most of them taken by night by means of flashlight, which was set going by the animals themselves striking against wires put up for the purpose. Schilling got splendid photos of lions, hyaenas, deer of all sorts, zebras, and other beasts. There is one of a lion actually in the air springing on to a buck.

Boars and Panthers

The boar is certainly the bravest of all animals. He is the real “King of the Jungle”, and the other animals all know it. If you watch a drinking pool in the jungle at night, you will see the animals that come to it all creeping down nervously, looking out in every direction for hidden enemies. But when the boar comes he simply swaggers down with his great head and its shiny tusks swinging from side to side. He cares for nobody, but everybody cares for him. Even a tiger drinking at the pool will give a snarl and sneak quickly out of sight.

I have often lain out on moonlight nights to watch the animals, especially wild boars, in the jungle.

And I have caught and kept a young wild boar and a young panther, and found them most amusing and interesting little beggars. The boar used to live in my garden. He never became really tame, though I got him as a baby.

He would come to me when I called him—but very warily. He would never come to a stranger, and a native he would “go for” and try to cut him down with his little tusks.

He used to practise the use of his tusks while turning at full speed round an old tree stump in the garden. He would gallop at it and round it in a figure eight continuously for over five minutes at a time, and then fling himself down on his side panting with his exertions.

My panther was also a beautiful and delightfully playful beast, and used to go about with me like a dog. But he was very uncertain in his dealings with strangers.

I think one gets to know more about animals and to understand them better by keeping them as pets at first, and then going and watching them in their wild natural life.

Study Animals at Home

But before going to study big game in the jungles you must study all animals, wild and tame, at home.

Every Boy Scout ought to know all about the tame animals which he sees every day. And if you live in the country, you ought to know all about grooming, feeding, and watering a horse, about putting him into harness or taking him out of harness and putting him in the stable, and know when he is going lame and should not therefore be worked.
Your Dog

A good dog is the very best companion for a Scout, who need not think himself a really good Scout till he has trained a young dog to do all he wants of him. It requires great patience and kindness, and genuine sympathy with the dog. Dogs are being used frequently for finding lost men and for carrying messages.

A dog is the most human of all animals, and therefore the best companion for a man. He is always courteous, and always ready for a game—full of humour, and very faithful and loving.

Where to Study Animals

Of course a Scout who lives in the country has much better chances of studying animals and birds than in a town.

Still, if you live in a big city there are lots of different kinds of birds in the parks, and there is almost every animal under the sun to be seen alive in zoological gardens.

In smaller towns it is perhaps a little more difficult, but many of them have their Natural History Museum, where a fellow can learn the appearance and names of many animals, and you can do a lot of observing in the parks or by starting a feeding-box for birds at your own window. But, best of all, is to go out into the country whenever you can get a few hours for it, by train, or bicycle, or on your own flat feet, and there stalk animals and birds, and watch what they do, and get to know different kinds and their names, and also what kind of tracks they make on the ground, and, in the case of the birds, their nests and eggs, and so on.

If you are lucky enough to own a camera, you cannot possibly do better than start making a collection of photos of animals and birds. Such a collection is ten times more interesting than the ordinary boy’s collection of stamps, or autographs.

Watching Animals

Every animal is interesting to watch, and it is just as difficult to stalk a weasel as it is to stalk a lion.

We are apt to think that all animals are guided in their conduct by instinct—that is, by a sort of idea that is born in them. For instance, we imagine that a young otter swims naturally, directly he is put into water, or that a young deer runs away from a man from a natural inborn fear of him.

William Long, in his book *School of the Woods*, shows that animals largely owe their cleverness to their mothers, who teach them while they are young. Thus he has seen an otter carry two of her young upon her back into the water, and after swimming about for a little while, suddenly dive from under them, and leave them struggling in the water. But she rose near them and helped them to swim back to the shore. In this way she gradually taught them to swim.

The mother animal teaches her young. This lioness seems to be telling her cubs how to act if a man should come.
I once saw a lioness in East Africa sitting with her three little cubs all in a row watching me approach her. She looked exactly as though she were teaching her young ones how to act in the case of a man coming.

She was evidently saying to them:

“Now, cubbies, I want you all to notice what a white man is like. Then, one by one, you must jump up and skip away, with a whisk of your tail. The moment you are out of sight in the long grass, you must creep and crawl till you have got to leeward (down-wind) of him. Then follow him, always keeping him to windward, so that you can smell whereabouts he is, and he cannot find you.”

**Birds**

A man who studies birds is called an ornithologist. Mark Twain, the amusing yet kind-hearted American writer, said:

“There are fellows who write books about birds and love them so much that they’ll go hungry and tired to find a new kind of bird—and kill it.

“They are called ‘ornithologers.’

“I could have been an ‘ornithologer’ myself, because I always loved birds and creatures. And I started out to learn how to be one. I saw a bird sitting on a dead limb of a high tree, singing away with his head tilted back and his mouth open—and before I thought I fired my gun at him. His song stopped all suddenly, and he fell from the branch, limp like a rag, and I ran and picked him up—and he was dead. His body was warm in my hand, and his head rolled about this way and that, like as if his neck was broke, and there was a white skin over his eyes, and one drop of red blood sparkled on the side of his head—and—laws! I couldn’t see nothing for tears. I haven’t ever murdered no creature since then that warn’t doing me no harm—and I ain’t going to neither.”

**Watching Birds**

A good Scout is generally a good “ornithologer”, as Mark Twain calls him. That is to say, he likes stalking birds and watching all that they do. He discovers, by watching them, where and how they build their nests.

He does not, like the ordinary boy, want to go and rob them of their eggs, but he likes to watch how they hatch out their young and teach them to feed themselves and to fly. He gets to know every species of bird by its call and by its way of flying. He knows which birds remain all the year round and which only come at certain seasons, what kind of food they like best, and how they change their plumage, what sort of nests they build, where they build them, and what the eggs are like.

A good deal of natural history can be studied by watching birds in your neighbourhood, especially if you feed them daily in winter. It is interesting to note, for instance, their different ways of singing, how some sing to make love to the hen birds, while others, like the barn-door cock, crow or sing to challenge another to fight. A herring gull makes an awful ass of himself when he tries to sing and to show himself off to the ladies, and an old crow is not much better.

It is also interesting to watch how the young birds hatch out: Some appear naked, with no feathers, and their eyes shut and their mouths open. Others, with fluffy kinds of feathers all over them, are full of life and energy. Young moorhens, for instance, swim as soon as they come out of the egg, young chickens start running about within a very few minutes, while a young sparrow is useless for days, and has to be fed and coddled by his parents.
Long also writes:

“Watch, say, a crow’s nest. One day you will see the mother bird standing near the nest and stretching her wings over her little ones. Presently the young stand up and stretch their wings in imitation. That is the first lesson.

“Next day, perhaps, you will see the old bird lifting herself to tip-toe and holding herself there by vigorous flapping. Again the young imitate, and soon learn that their wings are a power to sustain them. Next day you may see both parent birds passing from branch to branch about the nest, aided by their wings in the long jumps. The little ones join and play, and lo! they have learned to fly without even knowing that they were being taught.”

A good many birds are almost dying out, because so many boys bag all their eggs when they find their nests.

**Bird’s-Nesting**

Bird’s-nesting is very like big-game shooting—you look out in places that, as a hunter, you know are likely places for the birds you want; you watch the birds fly in and out and you find the nest. But do not then go and destroy the nest and take all the eggs. If you are actually a serious collector, take one egg only and leave the rest, and above all, don’t pull the nest about, otherwise the parent birds will desert it, and all those eggs, which might have developed into jolly young birds, will be wasted.

Far better than taking an egg is to take a photo, or make a sketch of the mother bird sitting on her nest, or to make a collection of pictures of the different kinds of nests made by the different kinds of birds.

**Fishes and Fishing**

Every Scout ought to be able to fish in order to get food for himself. A tenderfoot who starved on the bank of a river full of fish would look very silly, yet it might happen to one who had never learned to catch fish.

Fishing brings out a lot of the points in Scouting, especially if you fish with a fly. To be successful you must know about the habits and ways of the fish, what kind of haunt he frequents, in what kind of weather he feeds and at what time of day, which kind of food he likes best, how far off he can see you, and so on. Without knowing these, you can fish away until you are blue in the face and never catch one.

A fish generally has his own particular haunt in the stream, and when once you discover a fish at home you can go and creep near and watch what he does.

Then you have to be able to tie very special knots with delicate gut, which is a bit of a puzzler to any boy whose fingers are all thumbs.

I will only give you a few here, but there are many others. These are drawn half tied, just before pulling tight.
Here is the overhand loop:

To join a line to a loop, do it this way:

Much the same kind of knot is used to tie a hook to a line:

To join two lengths of line together, even when of different thickness, follow this method:

And you have to have infinite patience. Your line gets caught up in bushes and reeds, or in your clothes—or when it can’t find any other body it ties up in a knot round itself. Well, it’s no use getting angry with it. There are only two things to do—the first is to grin, and the second is to set to work very leisurely to undo it. Then you will have loads of disappointments in losing fish through the line breaking, or other mishaps. But remember they happen to everybody who begins fishing, and are the troubles that in the end make it so very enjoyable when you get them.

When you catch your fish do as I do—only keep those you specially want for food or as specimens, put back the others the moment you have landed them. The prick of the hook in their leathery mouth does not hurt them for long, and they swim off quite happily to enjoy life in their water again.

If you use a dry fly, that is, keeping your fly sitting on top of the water instead of sunk under the surface, you have really to stalk your fish, just as you would deer or any other game, for a trout is very sharp-eyed and shy.

You can also catch fish by netting, or as Scouts often have to do, by spearing them with a very sharp three-pronged spear. I have done it many a time, but it requires practice.

Reptiles

Of course a Scout ought to know about snakes, because in almost all wild countries you come across plenty of them and many of them dangerous.

Snakes sometimes creep into tents and under blankets, or into boots. You will always notice an old hand in snake country look very carefully through his blankets before he turns in at night, and shake out his boots in the morning before putting them on. I even find myself doing it now at home, just from habit.
Snakes don’t usually like crawling over anything rough. So in India you often construct a kind of path, made of sharp, jagged stone, all round a house to prevent snakes crawling into it from the garden.

I used to catch snakes when I was at school by using a long stick with a small fork at the end of it. When I saw a snake I stalked him, jammed the fork down on his neck, and then tied him up the stick with strips of old handkerchief, and carried him back to sell to anybody who wanted a pet. But they are not good things to make pets of as a rule, because so many people have a horror of them, and it is not fair, therefore, to have them about in a house where people might get frightened by them.

**Poisonous Snakes**

Poisonous snakes carry their poison in a small bag inside their mouths. They usually have two fangs or long pointed teeth, which are on a kind of hinge. The fangs lie flat along the snake’s gums till he gets angry and wants to kill something, then they stand on end, and he dives his head forward and strikes them into his enemy. As he does so, the poison passes out of the poison bag, or gland, into the two holes in your skin made by the fangs. This poison then gets into the veins of the man who has been bitten and is carried by the blood all over the body in a few seconds, unless steps are at once taken to stop it by binding the veins up and sucking the wound. Snake poison does no harm when swallowed.

**Insects**

Insects are very interesting animals to collect, or to watch, or to photograph.

Also for a Scout who fishes, or studies birds or reptiles, it is most important that he should know a certain amount about the insects which are their favourite food at different times of the year or different hours of the day.

About bees alone whole books have been written—for they have wonderful powers in making their honeycomb, in finding their way for miles, sometimes as far as six miles, to find the right kind of flowers for giving them the sugary juice for making honey, and getting back with it to the hive. They are quite a model community, for they respect their queen and kill those who won’t work.

Then some insects are useful as food. Locusts—a big kind of grasshopper—are eaten in India and South Africa. We were very glad to get a flight or two of them over Mafeking. When they settled on the ground we beat them down, with empty sacks, as they turned to rise. They were then dried in the sun and pounded up and eaten. And make a substitute for salt.

**Ants as Life Savers**

I have known another case of ants being useful—in fact they were not only useful but saved the lives of several men.

These men were a party of scientific professors who were hiking in the wilds of Australia, searching for rare plants and animals, reptiles and bugs.

Out in the desert they ran out of water. For hours they struggled on, maddened with thirst and weak with exhaustion. It looked as though, like many explorers before them, they would collapse and die. Luckily, to their great relief, a small native girl appeared. They made a sign to her that they were dying of thirst and wanted her to go and fetch water.

In reply she pointed to a string of ants which were climbing up a baobab tree. *(This tree has a great fat hollow trunk which thus forms a sort of water tank.)*

The little girl picked a long stalk of dried grass and climbed up to a little hole in the trunk which the ants were running into.

She put one end of the straw down this hole and the other end into her mouth and sucked up water.
In this way the wild little imp of the desert taught the learned gentlemen a valuable bit of knowledge which with all their school and college education they did not possess.

I hope that had a Scout been with them he would have been wise to the idea, or at any rate would have used his eyes and wits and would have noticed the ants at their work and guessed why they were using that hole in the tree.

Watching Insects

It doesn’t sound very exciting to watch insects, but the great French naturalist, Henri Fabre, the son of peasants, spent days in studying the lives and habits of insects, and found out all kinds of curious things about them. He became world famous for his studies.

Some insects are our friends—such as the silkworm and the ladybird or “ladybug”—but others are our enemies: They destroy vegetables and attack flowers. You all know how the mosquito spreads such dangerous diseases as malaria and yellow fever. And I need not remind you of how the house-fly can carry disease germs—that is why, in camp as well as at home, all food should be kept carefully covered, and no dirt or rubbish be allowed to lie about.

PATROL PRACTICES IN ANIMAL OBSERVATION

In the country, send out the Scouts to find out by observation, and to report on such points as these:

How does a wild rabbit dig its hole? When a lot of rabbits are alarmed, does a rabbit merely run because the others do, or does he look around to see what is the danger before he goes?

Does a woodpecker break the bark away to get at insects on a tree trunk, or does he pick them out of holes, or how does he gets at them?

Does a trout when disturbed by people passing along the bank go up or down stream? Does he go away altogether or return to his place?

If in a large town, take the Scouts to the Zoological Garden or to the Natural History Museum. About half a dozen animals would be quite enough to study for one day.

Find out all about your Patrol animal. Learn its call. Discover its haunts, its tracks and habits. If it is not a local animal, study it in a museum or zoo.

Get each Patrol to keep an outdoors log for a month, then compare results. Each Scout should contribute something to the log, such as a note of something seen or a sketch of a bird or animal. Or have a nature scrap book, with cuttings from newspapers and magazines of nature photographs, notes on outdoor life, nature calendars, etc.
Encourage the taking of photographs. Even the cheapest camera can be used for showing the surroundings in which each kind of bird makes its nest.

Bird-feeding can be practised both in town and country, particularly in the winter. A window-sill feeding-tray in town can attract many different birds. The provision of water in summer is also important.

Build up a Patrol library of well-illustrated books for recognizing animals, bird, reptiles, fish, and insects.

Try to get a pair of good field glasses for the Patrol so that the Scouts can learn the fun of watching birds and animals. Also introduce the Scouts to the use of the magnifying glass, and, if possible, the microscope. Any instrument attracts a boy, and the new world it opens up will fascinate many of the Scouts.

In the country you can make a “club” for the birds, with a “dining room”, a basin of fresh water, and branches to lounge on.