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Wild Life Protection Society of Ceylon

FOUNDED 1894

The objects for which the Society was formed were—

“To prevent the elimination of game in Ceylon by destruction of animals for trading purposes, to further the interests of legitimate sport, and to conserve one of the food supplies of the inhabitants.”

At the Annual General Meeting held on 30th November, 1945, the Rules were revised, and the objects of the Society now are—

- (1) To prevent the progressive destruction of species of wild animals and wherever possible to preserve wild life intact in natural conditions in Ceylon.
- (2) To continue the tradition of the Society in furthering the interests of legitimate Sport.
- (3) To promote an interest in the life histories of all forms of animal life and to co-operate with other Societies and Institutions which have similar aims and objects.

The Subscription to the Society is Rs. 15 annually, payable on the 1st October.

All members, whose subscriptions are not in arrears, receive a copy of each number of the Society's Magazine, "LORIS", which is issued bi-annually in June and December. Further copies may be had at Rs. 4-50 each, at which price copies are also available to the general public.

Persons wishing to join the Society, or desirous of obtaining further particulars, should apply to the Hony. Secretary and Treasurer, Mr. J. Mansergh Hodgson, Arratenne, Madulkelle.

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LORIS

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East African Odyssey

By D. L. EBBELS

“GOOD morning, ladies and gentlemen, this is the Captain speaking. The mountain now visible rising above the clouds to our right is Mt. Kenya.” The loudspeaker system shut off with a click.

From my window seat I gazed out at the jagged peaks of the eroded volcano. Through the binoculars the distance dissolved to show the snow-clad saddles and slopes sparkling in the bright early morning sunshine. Far below us the shadow of the aircraft seemed to pass with irritating slowness over the spun floss of fleecy cumulus, occasionally falling to the ground to pass over the quilted plains and the occasional roads lying like brick-red threads on their dappled surface.

Landing at the very modern new *Nairobi airport* at 9.30 a.m., we were able to stretch our legs after the long flight from Aden, and within an hour a waiting car had whisked me the eight miles into the city. The airport road runs along the north-eastern boundary of the Nairobi Royal National Park, and it was thrilling to find that what I had taken for cattle resolved themselves on closer approach into herds of zebra and wildebeest, grazing unconcernedly by the roadside.

As some sort of motor transport was essential, the exorbitant rates of hire compelled me to

buy a second-hand car, and the afternoon of my third day in Kenya saw me heading south for Tanganyika. The roads in East Africa are either tarmac or “marram”, an unmettled earth surface which is usually as bad as the tarmac is good—both in the superlative. However, nearly all roads are wide and straight, so that on the tarmac speed is limited only by the car’s mechanical capabilities, while on the “marram” its faults are soon exposed. On the “marram” roads dust is the main hazard, as a vehicle may raise a dust cloud behind it as much as a mile or more in length. In rain the dust rapidly turns to sticky mud, which can quickly make the road impassable.

Leaving the tarmac at Athi River, some 17 miles from Nairobi, I turned on to the Arusha road, running over the rolling Athi Plains, which until a few years ago supported countless herds of game. Even now as I travelled like a comet at the head of my trail of dust, I could see herds of zebra, wildebeeste, and impala dotting the landscape on either hand. Numbers of “Tom-mies” (Thompson’s Gazelle) could also be seen grazing and flicking their tails, while occasional ostriches paced the cropped grass. Further south, on the outskirts of the Amboseli National Reserve, the country became more wooded, and at Namanga on the Tanganyika border I

thankfully regained the smooth tarmac. Small herds of giraffe could often be seen near the road, especially near the foot of Meru, the sharp-peaked volcanic mountain that towers over Arusha to nearly 15,000 ft.

Arriving in *Arusha* soon after dark, I spent a comfortable night at the New Arusha Hotel, haunt of white hunters and their clients, and left for Lake Manyara the following day. About 12 hours' drive brings one to the foot of the escarpment where Lake Manyara lies on the floor of the Rift Valley. At his bungalow near the small settlement of Mto-wa-Mbu, I was greeted by Max, who is in charge of the Lake and its environs (recently declared a National Park) and who was to give me so much help and take me round the Reserve in the days that followed.

The enormous wealth of bird life in East Africa is quite bewildering to a new-comer, and the environs of Lake Manyara can hardly be surpassed in avifaunal attraction. For some days after my arrival in East Africa it seemed to me that each bird I saw was of a different species, and it was not until Max had told me the names of those to be found near the Lake, that they began to resolve themselves into any sort of order in my mind. I was also able to consult his copy of "The Birds of Eastern and North-Eastern Africa" by Mackworth-Praed and Grant. This is at present the only work that adequately covers the birds of the regions I visited, and though in two bulky and expensive volumes, it is quite indispensable to anyone wanting to identify more than a small proportion of the birds in this area. For the identification of the larger animals, however, there is an excellent pocket book with good monochrome illustrations, priced at Sh. 6/50.

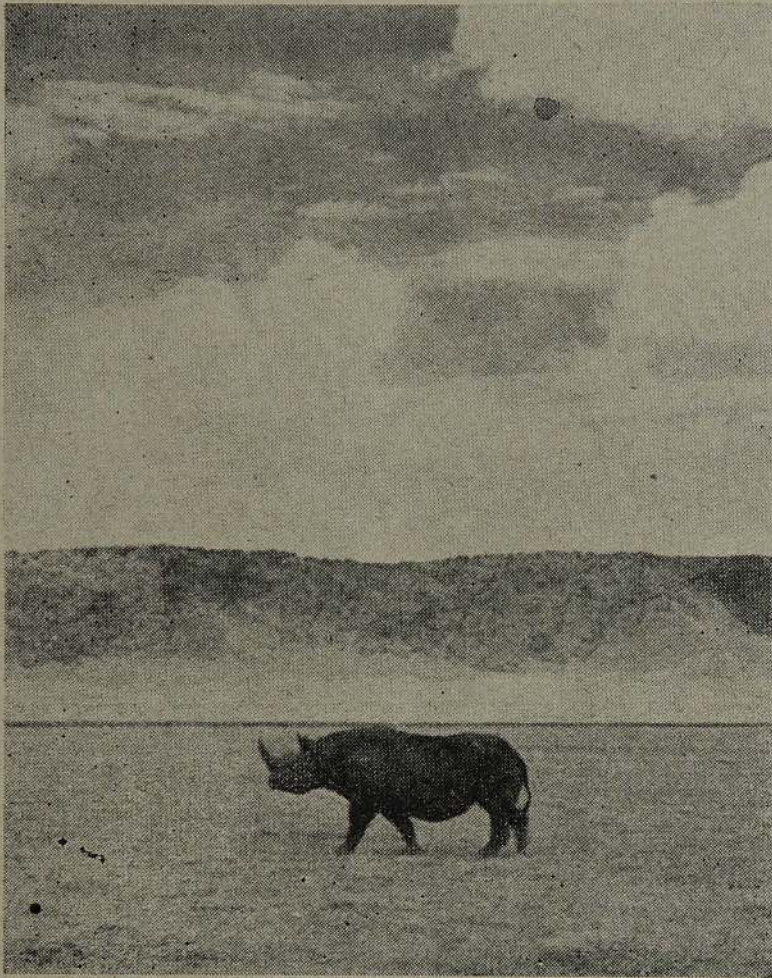
I spent two wonderful days at *Lake Manyara*, watching the birds on the marsh, seeing the massed flamingoes along the shores, and driving down to Maji Moto (literally "Hot Water") at the southern end of the Reserve with Max and his brother, St. J., to see the game fence and the hot springs. There was the excitement of



Ostrich nest, Lake Manyara, Tanganyika

finding an ostrich nest far out on the baked soda flats and the minute scrape with two eggs belonging to a Kitlitt's Sand Plover. Ever over and around us was the incomparable bird and animal life, and the wonderful scenery, though the sense of well-being was tempered every now and then when the insect underworld made itself felt in the red-hot bite of a tsetse.

From Manyara I motored up the escarpment at Mto-wa-Mbu, and two hours almost continuous uphill travel brought me in the late afternoon to the Crater Lodge, Ngorongoro. The Lodge is built at 7,500 ft. on the rim of the *Ngorongoro Crater*, believed to be the largest extinct crater in the world. No amateur photographic equipment could adequately capture the vastness and grandeur of the crater. The floor measures 12 miles in diameter and the sides rise over 1,500 ft. This is one of the best places for rhino and lion, and I was able to see and film several of either species; indeed, I even had a good sight of a rhino from the window while I was having my bath one evening. Hippos and numbers of birds frequent the small lake on the crater floor, while elephant and



Rhino, Ngorongoro Crater, Tanganyika

buffalo are often to be seen round the crater rim.

After two days at the Ngorongoro Crater I travelled back to Manyara and lunched with Max at his bungalow beneath the escarpment. Accompanied by St. J., I then continued *via* Arusha and Moshi to Marangu on the lower slopes *Kilimanjaro*, from where we intended to try and climb Kibo, the higher of the two peaks. This proved to be not so easy as we had thought, both in arrangements and physical effort, for the great height (19,340 ft.) compels one to spend three days of acclimatization on the mountain, at increasing heights, and involves quite extensive preparation of food and clothing. We stayed two nights at the Kibo Hotel, where we were able to hire all necessary equipment including arctic clothing, porters, and a guide. There are three Climbing

Club huts on the mountain at 9,000 ft., 12,500 ft., and 16,500 ft., spaced approximately 10 miles apart. No actual climbing is involved until the last stages above the top hut, the rest of the journey being a stiff uphill trudge, but we arrived at the top hut suffering rather acutely from lack of oxygen. Being unable to sleep added to our discomfort and it was a rather disillusioned pair that dragged themselves from their bunks at 2 a.m. and scrambled after the guide up the steep snow-covered scree in the hope of being at the top by sunrise. However, our progress grew slower and slower and eventually reaching a height of about 18,000 ft. we felt we could go no further and reluctantly returned to the top hut. We had two hours sleep before setting off and walking the 30-odd miles back to the hotel, where we arrived at 5 p.m. having only paused for an hour or so at each of the two lower huts for some breakfast and lunch.

The following day I left Tanganyika and arrived back in Nairobi that evening. The wide streets and modern buildings that were now familiar to me conveyed an odd and pleasant sense of home coming. I spent two nights there and paid another visit to the Nairobi Royal National Park, which I had previously visited soon after my arrival. This was in fact the only Kenya national park I was able to visit, since all the others are closed from 1st April to 31st May and again from 1st November to 15th December. The Park is only some 15 miles from the City centre and contains most of the larger species of Kenya game, excepting elephant. I was able to see a great variety of animals and many kinds of birds.

After spending a few days in the tea-growing districts of Kericho and Nandi Hills, I motored on to Uganda, spending a night in Kampala, and on to the Queen Elizabeth National Park on the Congo border.

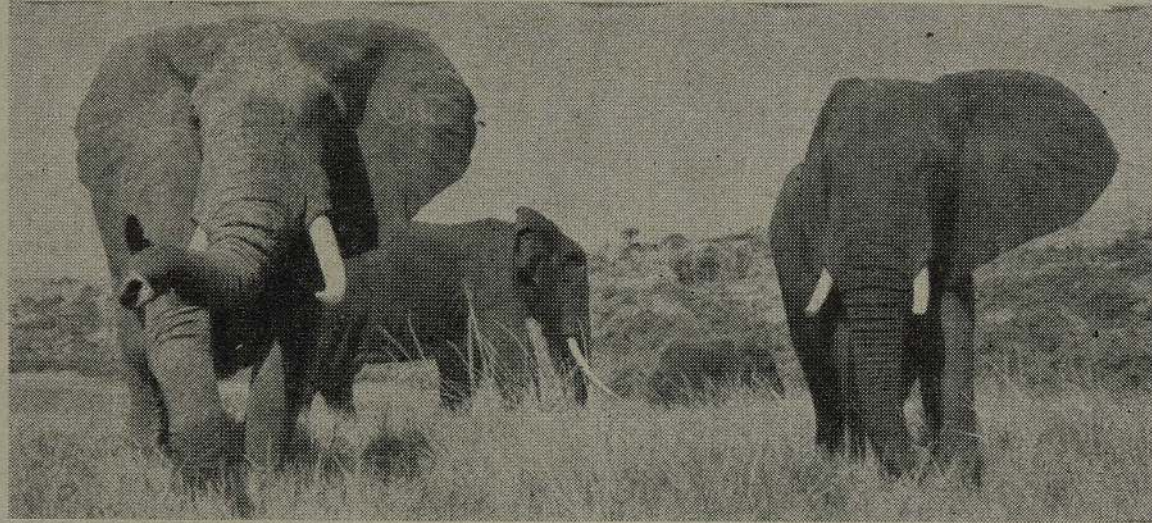
It was growing dark as the road from Mbarara wound down from the hills studded with scores of volcanic craters to the plains around Lake Edward at the foot of the Ruwenzori—the

Mountains of the Moon. In the clear evening air the great mountains stood out dark against the delicate blue sky, and the snow-capped peaks of Mt. Stanley glistened in the fading December twilight. Passing through the park gates, I drove on along the shores of Lake Edward, and was just passing over the narrow isthmus leading to Mweya Lodge, when I found myself surrounded by elephants. *I managed to stop just in time, and turned out the headlights.* There were

noon the eager mist had covered the peaks down to 10,000 ft. and I did not see them again.

The Queen Elizabeth Park is particularly excellent for birds, and a great variety can be seen, even within a hundred yards of the Lodge itself. On the slopes below the Lodge a pair of Hamerkop Storks were at work on the construction of their colossal nest, and in a cactus tree overlooking the Kazinga Channel a pair of African Fish Eagles tended their young chick.

Several species of sunbirds and finches frequented the flowering shrubs, while Lesser Masked and Black-headed Weavers stole the crumbs left on the tea tables. There is a good library with all the standard reference books, and recently a systematic collection of the local avifauna has been started, which one can



Elephants in Queen Elizabeth Park

numbers of small calves in the herd and I had to wait in silence for ten minutes until they had passed over the road.

The *Queen Elizabeth National Park* is a large reserve bordering on the Parc National Albert of the Belgian Congo, thus forming a huge game reserve that encompasses Lake Edward and includes most of the shores of Lake George, as well as the Kazinga Channel which connects the two lakes. The Mweya Lodge, run by Uganda Hotels Ltd., is very comfortable and is built on a high peninsula at the debouchment of the Kazinga Channel into Lake Edward. The morning following my arrival was beautifully clear, and from the Lodge verandah one of the rarest of the local sights could be seen. Towering from the plains before me, the Mountains of the Moon rose up tier upon tier, brilliantly clear in the early morning sunshine. Once again the gleaming white fang of Margherita, highest peak of Mt. Stanley, could be seen against the already heat-softened blue of the equatorial sky. By

examine on request, and which is most instructive.

The larger game is not so varied as in Kenya and Tanganyika, but there are plenty of elephants, waterbuck, and hippo, while down in the south-western sector of the park can be seen large herds of buffalo, topi, and to a lesser extent, Uganda kob. In general I found the photographic opportunities greater here than anywhere else I visited.

My three days at Mweya Lodge passed all too soon and I left one evening for Fort Portal, a pleasant town at the foot of the Ruwenzori, where I stayed a night before motoring on to the Murchison Falls National Park the following day. There is a fine stretch of some 90 miles of tarmac road prior to Fort Portal, but this ends a few miles out on the Masindi road, and here a passing car threw up a stone which shattered my wind-screen. This was most annoying as there was no possibility of having it repaired until I returned to Kampala. So I had to continue

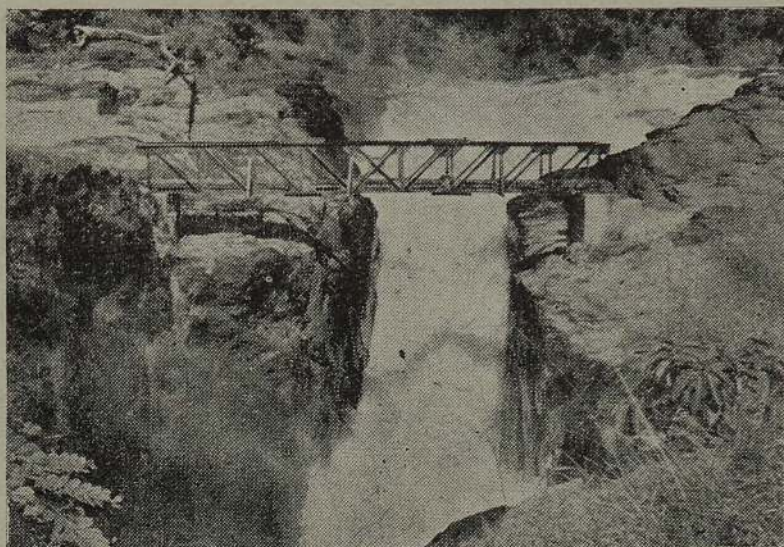
windscreenless for the next 300 miles and the number and variety of insects I collected in consequence was quite amazing and would have delighted any entomologist. I also had to be quick about overtaking other vehicles on the road, since it was impossible to breathe when following close behind.

The *Murchison Falls Park* lies on either side of the Victoria Nile, reaching down to the shores of Lake Albert and to the banks of the Albert Nile. I crossed the Victoria Nile on the paddlewheel ferry and arrived in the late afternoon at Paraa Safari Lodge, which is built on the high north bank. One has to be careful about the time of arrival here, as the ferry only operates from 8 a.m. to 6 p.m.

It may be that I was unlucky during my two days stay, but it seemed to me that, apart from the Falls themselves, the park did not have so much to offer as the one I had just left. Neither animals nor birds seemed so abundant, and photographically too I feel there is less scope. However, excellent views can be had of large crocodiles, and I was also lucky enough to see the Whale-billed Stork, a heavily built bird with an enormously wide bill.

The Park is a vast one, and getting to any particular place involves long drives over bumpy tracks and rather uninteresting country. The Murchison Falls themselves are about an hour's drive from the Lodge. It is a stupendous sight to see the whole Victoria Nile engulfed in a cleft barely 20 ft. wide, where it tears its boiling way under the little footbridge with a thundering roar to loose itself in a seething mass of white foam and lacy spray. The drop in height is actually not so very great (about 130 ft.), but from the footpath that leads down to the foot of the falls, the sight is quite wonderful.

However, the time for me to leave came, as usual, all too soon, and crossing the ferry as soon



Murchison Falls, Uganda

as it opened in the morning, I drove some 452 miles back to spend another two nights at Nandi Hills before returning to Nairobi for the last time.

Three days later I was sitting in the airport lounge looking out into the warm night. The last time it had been morning and I had just arrived; now it was dark, and the brilliant lights lit on the hurrying forms of mechanics and maintenance men, and the animated box-like luggage trains. So much had happened in the crowded days of the last month, and that bright morning when I had seen Mt. Kenya towering over the horizon seemed very long ago.

The loudspeaker in the lounge came suddenly to life: "B.O.A.C. announce the departure of their flight B.A. 162 for Rome and London." Soon the runway lights were rushing out of the darkness, winking and disappearing as they passed by ever faster until as the airport buildings came abeam they fell away below, and nothing was to be seen save the great wing, faintly visible in the light from the cabin windows, poised in the African night.

Slowly I unbuckled my safety belt.

When Ceylon Exported Elephants

By KENNETH SOMANADER
In Times

THE elephant has been spoken of as the pride of Ceylon. It roams the jungles in small herds and, in our national parks, it is a common sight to see a herd of wild elephants standing undisturbed while carloads of visitors pass by. That is because, in the jungle, an elephant is a very inoffensive animal and all it asks of man is that he should leave it in peace.

For several decades now, suggestions have been put forward to preserve the elephant in its wild state in Ceylon. It has been estimated that the elephant population of Ceylon is now under 1,000, though a century ago it was nearer 10,000. In the days of the Sinhalese kings, the figure must have been much more.

Those were the days when our jungles literally teemed with elephants. It is said, in fact, that they were so numerous in some areas that a rough ladder was placed against every tree alongside jungle tracks to facilitate the escape of travellers.

The export of the animals from Ceylon dates back to the time of the first Punic war. Ceylon elephants were also engaged in the Persian wars, and indeed in all the struggles between the nations of the East.

But it was for tusked elephants that there was an especial demand in the early days. Ceylon ivory was considered the most valuable for manufacturing purposes, being whiter and finer than any other, and the Chinese confessed that, for their exquisite carvings, the ivory of Ceylon excelled all other, "both in density of texture and in delicacy of tint". So it was that in the days of the Sinhalese kings, elephants without tusks were seldom captured: they were not used in state processions nor had any been trained for agricultural purposes.

Under the system of *Rajakaria* rendered by the people to the Kandyan kings various classes of labour such as hunters, trainers and elephant doctors were always employed. And with the assistance of female decoys, the inhabitants sometimes drove the elephants and brought

them into the town, capturing the tuskers before the eye of the king in the square before the Old Palace at Kandy. At one time all elephants were the property of the Kandyan crown, and their capture or slaughter without royal assent was classed among the gravest offences in the Kandyan Code.

In the time of the Dutch, too, elephants were caught in the Island for purposes of trade. Le Brun, who visited Ceylon in 1705, writes that in the district round Colombo, elephants were so numerous that 160 were taken in a single kraal.

In the Memoir he left to Laurens Pyl (his successor), Dutch Governor Ryclof Van Goens (Jnr.), (1679), writes of the sale of elephants as a source of clear profit. He says that elephants can be captured anywhere in the Island, and that "the lack is not of elephants but of purchasers". The largest sales in those days were effected in Jaffna, the next largest in Galle. Animals caught in Batticaloa and Trincomalee were shipped from Jaffna, and those caught in Colombo from Galle. The capture of elephants was the special duty then of Lt. Dissawe Domingo Rodrigo of the Wannu who was most experienced in this department.

The sale was held publicly by Council. Governor Van Goens records that a profit of from 150,000 to 200,000 guilders was made every year on elephants sold in Jaffna and Galle. In Jaffna, the animals were paid for in promissory notes or in cash, but in Galle only in rice. The Dutch also shipped elephants from Matara and Negombo.

During Laurens Pyl's governorship, when an elephant was brought to the stalls, it was kept there for 12 days, at the risk of the seller. If the animal died within that period, he had to bear the loss. If it survived the 12 days, then it was accepted by the company and taken to the castle where its height was measured and the mark of the company branded on its back. After

the animal was sold, it was branded again, for the order was that no animals, except those bearing two marks, should be shipped.

Governor Gerrit de Heere (1697—1702) did away with the system of branding the animals twice. He considered one marking sufficient, and also ordered that all elephants for sale should be brought in by July 1st, so that preparations could be made in time to hold the auction by the middle of July or early in August. The order, besides, gave time for the required number of vessels to be got ready, and prevented any animals being left behind on account of contrary winds.

Shortly after the British occupied Ceylon, Governor Frederick North formally employed gangs of elephant-catchers from Bengal, under the command of a military officer, for the Ceylon elephant establishment which was attached to the Civil Engineer and Surveyor-General's Department. And besides, 2,000 men were employed, under the system of Rajakaria, for three months, in driving 300 elephants into a kraal.

It was the British, incidentally, who set the example of using elephants for clearing forests and for hauling loads.

In the Matara District, there were three great enclosures for ensnaring elephants, Pridham writes: "The casualties on those occasions were numerous. Some strangled themselves in their exertions to get loose, others fell down between the tame ones, and though those sagacious animals, aware of their hazardous situation, knelt to the ground to prevent their suffering and used every means in their power to induce them to rise, yet they often fell victims. The cries of a captive elephant had all the expressions of sorrow, grief and despair."

The elephants were then tamed and, when sufficiently docile, sold by public auction and transported to the continent in open boats adapted for the purpose. The principal place for shipping the animals to India was Mannar. Here Arab traders came, bringing horses to be bartered for elephants.

The Shooting of the Verugal Rogue

By A. F. TAMPOE

IN these days, when the numbers of our elephants are dwindling, and their deaths by unnatural causes far too many, elephant hunting is no longer a sport to be indulged in. The trend nowadays is rather to save the elephant.

But in times when elephants were plentiful in Ceylon, and even today in parts of Africa where elephants are still to be found in comparatively large numbers, elephant hunting could be an exciting and grand sport, and at times quite dangerous.

The shooting of what may be termed outlaw elephants is however ordered by Government under special circumstances, occasionally and rarely in Ceylon. These circumstances usually, though not always, arise as a final phase of the never ending battle between village cultivators

living close to jungles and the elephants to whom the close proximity of easily obtained, and inadequately and often carelessly protected crops, is too great a temptation. It sometimes happens too that age old roads which the elephants take from one feeding ground to another are suddenly obstructed by cultivation or other human works. The notable examples are the Gal Oya and the Deduru Oya herds, the former of which have been luckier in reaching an amicable settlement with man than the latter.

About twenty or thirty years ago there have been a few elephants which were dangerous from pure aggressiveness and intolerance of man's presence. But such animals no longer seem to exist, and elephants seem to have sensed that their position in relation to man has radi-

cally altered, and that they are no longer the overlords of the territories through which they roam.

Nowadays, when Government finally decides to proclaim an elephant for destruction, it is often merciful to the condemned animal which has long been harried by unsuitably armed cultivators who blaze away at it with miscellaneous ammunition, sometimes home-made with rusty nails and odd bits of metal, more often missing but also occasionally scoring a hit in any part of the elephant's anatomy from its rump to the crown of its head. By coming upon lazily or inadequately protected and guarded fields and chenas, it has fallen into the habit of finding its food the easy way at the expense of mankind, as do carnivora in other parts of the world, and has consequently become an ever-present menace to cultivation and even to life. With every man's hand against it, it is then best for it to die swiftly and painlessly, as it will with a single well placed brain shot from a suitable weapon in the hands of a sportsman.

The true solitary crop raiders which also sometimes become mankillers, are elephants which have long given up the herd life or been expelled from it, and therefore are no longer of help in propagating the species; they do not seem to possess the attractiveness of old bachelors.

It is therefore with mixed feelings that one hunts an elephant in Ceylon these days, and the following is the story of such a hunt.

On 18th March, 1960, the day before the General Elections in Ceylon and therefore well remembered by the inhabitants of the area, a wild elephant killed a man off Kathiraveli village in North Batticaloa. Kathiraveli, Sempimadu, Vakarai, and Verugal are villages lying on or a little off the Seven Ferries Road from Batticaloa to Trincomalee.

The man who was killed belonged to the people loosely called "Verdar" or "Veddahs" though they have come a long way from their origins; he had been returning after a day's fishing, when he blundered into the elephant which was feeding on an *eecham patthai*, or

wild-date bush. The elephant killed him, but did not crush or mangle his corpse, as some killer elephants do. It is said to have remained near the scene for some ten days thereafter, and then moved off. As he was not a villager, the death of the wanderer did not arouse the measure of concern which it otherwise would have done.

An elephant killed again some weeks later off Tirukonamadu which is about ten miles from Sempimadu, but which really falls in the Polonnaruwa District, and there appears to be a strong likelihood that it was the same elephant.

Since there had also been considerable damage to cultivation as well in the areas mentioned above, caused by this elephant, and perhaps others as well, the Government Agent, Batticaloa, in his capacity as District Warden under the Fauna and Flora Protection Ordinance proclaimed the elephant for shooting or capture. I applied for and obtained the free licence which is issued in such cases to hunt, shoot, kill or capture the elephant in the proclaimed area bounded on the north by Verugal Aru (or River), south by Panichchankerni Aru, both of which are ferry points, on the east by the sea, and west by Manikam Periya Arapathai Elanthamedu, which last named boundary was a trifle mysterious.

The proclamation appeared in the Gazette of the 29th April, 1960, and very early in May I had received the licence.

The problems immediately arising were to obtain the necessary leave at such short notice, and to find at least one suitable companion. Local guides would also become necessary, but this could be tackled later after we reached the proclaimed area.

The companion I had in mind was A. Aiya-muthu, a young Vel Vidan of Kumburupiddy village in the Trincomalee district. My letters to him brought no immediate response, but eventually I heard from him on the 16th of May, the reason for the delay having been that he had been away from home in another village where he had been engaged in tractor ploughing. He was a man in whom I had much confidence,

because he was a natural born sportsman and very courageous, and quite a good shot with his single-barrelled though not very sound 12 bore shotgun.

My first duty was to go to Colombo immediately to have the ejector of my Jeffery's .375 magnum magazine rifle replaced with a new ejector. This was soon fixed, and I was indeed happy to have my rifle in perfect working order.

On the 24th we reached Batticaloa, and then set about the next major tasks of finding a knowledgeable local guide or shikari, and of obtaining information of the elephant's present whereabouts as it was by then over two months since the killing of the Veddah off Kathiraveli. I have called this elephant the Verugal rogue, because though it had committed the capital offence near Kathiraveli, it had taken up its residence at Verugal, so far as a rogue elephant may be said to have a residence—"last known address" would be a more correct term and it was three miles from Verugal Ferry that I shot it.

I had written in advance to friends in Batticaloa, as well as to the D.R.O. and the Game Ranger of the area, that I would be very grateful for information of the elephant's movements, but no one could tell me very much, as the elephant had moved off from Kathiraveli and its environs.

Furthermore, the villages in the proclaimed area are among the poorest, least populated, and most backward in the Batticaloa District, and did not appear to be much favoured by visits from officials. I decided that I would have to find out for myself where and what the rogue was now doing.

But I did obtain in Batticaloa a very helpful introduction to the only Government department which was operating actively in the area at the time, namely, the Survey Department who had camps established at several points both in the jungle, as well as in the vicinity of villages. To the Assistant Superintendent of Survey, Mr. Somasegaram, and his assistants surveyors Ramanathan, Kanagalingam, and Abeysundere, I am

greatly indebted for their unfailing hospitality and concern for our welfare in that rather comfortless country. One does not really expect luxury on an elephant hunt, but the seasonal heat was overpowering and we had to walk considerable distances through open stretches of grassland and along dusty exposed paths, so that at evening it was comforting and relaxing to reach the green canvas tents of the Survey Camps.

To go back to our story, we left Batticaloa on the 24th afternoon with our letter of introduction, and in due course arrived at Panichchankerni Ferry, and crossed over.

We spent the night at Vakarai with Mr. Somasegaram, after meeting and talking with the Village Headman of Kathiraveli, who helped us both to engage a cart to transport our baggage and provisions into the jungle, and obtained for us the services of Chellappah of Paalchenai (literally milk-farm), a village between Verugal and Kathiraveli. Chellappah knew his jungles, spoke only when necessary, and as the days progressed, a mutual confidence grew between him and us.

Our first two days wanderings in search of fresh elephant sign, or elephant news, drew either blanks or elicited information which on close questioning proved too stale to be followed. This combined with the intense heat made my companions increasingly dispirited. But I urged them on and on the 26th noon as we were stumbling along the dusty road to Mutur, we came to an Irrigation Department temporary camp at Kathiyalchenai.

We had received so much unhelpful information hitherto, that it was merely as a routine inquiry that we asked at the camp whether they had seen or heard the elephant.

Oh, yes! they had, and assured us that the elephant now sojourned along the Verugal bank, or "Kengai" which is the local name for it. This was heartening news indeed, and the first definite information of the elephant's recent presence that we had received.

The truth of the matter was that the elephant

had very naturally changed its feeding and raiding grounds from the fields and forests at Kathiraveli and Sempimadu which had now been harvested, and had become parched by the dry season and the Kachchan wind. But along the Verugal bank there were vast stretches of lush grass, and high forest, and an unfailing supply of sweet cool water in which an elephant could bathe and drink its fill.

So we changed our plans, and to Verugal we tramped. It was a long hot, and foodless march, as we had originally intended to return to the Survey Camp at Sempimadu where we had left all our baggage, clothes and provisions.

But we did carry plenty of water in water-bottles, and tea in a thermos. This was something I saw to myself on every occasion that we left camp. We shot a nameless jungle bird on the way, and as we had no cooking utensils, tried to bake it in the earth, but either the sand was too moist, or there was some fault in our technique, for at the end of an hour we dug it out to find it only half-done. No! we did not eat it, but proceeded lunchless to Verugal.

The sight of the green canvas tents of Surveyors again greeted us. We had a feast that night, and I had a mosquito net to sleep under. Only, we had no clothes to change into, and slept in what we had worn the whole weary day.

That night we gathered a great but confusing amount of elephant news. In the morning we set out to look for fresh elephant footprints in some of the places where we were assured we would see them, but not a trace of fresh prints, droppings, or broken vegetation, did we see.

I have experienced in my elephant hunts, that both Sinhalese and Tamil villagers are very inaccurate in the information they provide about elephants. You will be told that the elephant was in such and such a garden or field only last night, and already tired, you go along to find that the signs are perhaps a week or ten days old.

The same inaccuracy characterizes their description of the height of elephants. Seldom does one hear of an elephant less than ten feet in

height, and an elephant very recently reported in the newspapers was fourteen feet high. Experienced elephant observers will tell you that a wild elephant nine feet tall is rare nowadays, and ten-foot elephants have not been shot since the days of Harry Storey and E. L. Walker.

Hunting an elephant would be immensely simplified, if the information furnished by villagers and even by headman were less inaccurate.

After a morning wasted in investigating the places described to us, we turned back at ten o'clock, with Aiyamuttu and Chellappah by this time thoroughly pessimistic, and halted at a boutique kept by the Verugal Ferry keeper. This was a favourite news centre, as people from all the villages in the area had to pass by the Ferry either going to Vakarai or further on to Valaichenai and even Batticaloa or on their way to and from their fields and chenas in the jungle, to their homes.

At this place there turned up at about Eleven o'clock, two poachers and illicit liquor brewers, men of no account by the standards of the law abiding cultivators and cattle herders, but to me the bearers of good tidings. I am sorry I cannot tell you their names.

By the very nature of their unlawful occupation which they transacted in the heart of the jungle and in the dead of night, they were in a position to give us accurate news of the elephant. They had indeed seen fresh tracks that morning (the 27th of May), and on being asked whether there were fresh droppings as well, the older of the pair, a wizened little man with a Punch-like countenance and a fierce black moustache, retorted that he did not require fresh droppings to tell him whether an elephant had passed recently or not.

I invited him to join us, but he stated that he had pressing business that evening—the nature of which may well be imagined—and that our local shikari Chellappah could well take us to the spot, and that he would join us the following morning if we had still not been successful in our quest.

We started out at two p.m. I thought to myself whilst trudging through the heat, what an irony it was that the mighty quarry could travel great distances in the cool of the night with his tireless pneumatic-soled stride, while the hunter had perforce to follow him with puny steps under the fierce rays of the sun. I had in addition to carry a 9½ pound rifle.

I hardly expected to catch up with the quarry that same day, as we had commenced following his previous night's or early morning tracks only in the afternoon, perhaps eight or twelve hours after his passing. But since this was the first reliable news of fresh sign that we had obtained, we decided to follow them up at least to help us judge where he would spend the night, and thence find his early morning tracks the following day.

Our way lay through stretches of high "Ottu" grass, beloved of elephants, covering mounds made by earth worms. We reached the spot named by the poachers, and found that all they had said was true. The tracks were the first recent ones we had seen in three days of weary tramping.

It was then four o'clock in the afternoon, and having decided to follow the tracks, my companions made the interesting announcement that they had forgotten to bring our Winchester torch. This was a serious piece of forgetfulness on the part of jungle men setting out on an evening reconnaissance, and I gave them a piece of my mind on the subject because we might well be lured farther and farther into the jungle and become benighted before we could find our way out again. To turn back at this juncture would have been very disappointing, and I felt most annoyed indeed.

Chellappah reminded me that our moustachioed informant had been emphatic that he knew the habits of this elephant well, and that it retired into the jungle which lay beyond us only for its midday retreat and siesta, and that we were bound to see it on its return to its feeding grounds which were the long grassy open stretches along the Verugal bank, the Kengai.

We followed the elephant's tracks for perhaps half a mile inside the jungle which, unsatisfactorily enough, was one of the few portions of the Verugal country which was not high forest or open grassland. There was plenty of evidence of this jungle being a favoured resort of our quarry, so much so, that my companions often had difficulty in distinguishing the fresh tracks from the older ones.

When it was 5 p.m., I firmly insisted on our turning back. We had apparently failed in catching up with our elephant in his daytime haunt, and the only chance seemed to be of his coming out into the open grasslands, as our informant had said was his wont, and this would have to be before dark. In any event, being without a light, we could not afford to tarry long.

As I picked my way through the undergrowth I earnestly hoped things would improve on the morrow. It was becoming pretty obvious that my companions, Aiyamuttu and Chellappah, were growing increasingly tired and dejected and losing their keenness, as had been evidenced by their leaving the torch behind that afternoon.

We had emerged from the jungle into the open, when four buffaloes who had been wallowing in a mud hole saw us, rose to their feet and splashed away. Almost simultaneously, we heard in the jungle to our left a rending crash, the unmistakable sound of an elephant startled whilst feeding.

Our entire frame of mind suddenly altered, and we grinned at each other. The wind was all right, but the jungle in which the elephant was hidden seemed to us particularly impenetrable. We debated, with the light of the sun rapidly failing, whether we should take a chance and go in after the elephant, or hope that he would emerge into the open where his nocturnal feeding grounds lay before it grew too dark to see the rifle sights.

The gallant Aiyamuttu reconnoitred ahead and came back with the news, that the jungle did not seem quite so thickly grown as appeared at first sight.

We entered where there was a trace of a path,

and Aiyamuttu being more noiseless than I with his bare feet, went a little way ahead and disappeared round a bend in the path. Almost immediately he re-appeared, very breathless, and told me the elephant was coming towards us, though it could not have winded us. After that first loud crash, it had been very silent, and I had begun to suspect that it had noiselessly melted away into the jungle in the amazing way that these massive creatures can disappear.

I immediately took up my position behind the only tree in that spot, but even that was hardly worthy of the name as it was not thick enough to afford any cover, but it served to break up my outline. Within seconds, the elephant's trunk and then the rest of his head appeared round the bend in the path. It seemed to me for a moment that he intended to leave the path and take a straight course through the jungle and out into the open.

My plan had been as far as possible to restrict myself to the broadside ear-hole shot or failing that, the half-facing temple shot, but though our quarry presented himself broadside for a fleeting moment as his head came clear of the bend, my line of fire was too much obscured by twigs and branches for my liking. But as the bend he had to take was almost right-angled, he had to move outwards a little to accomplish the turn and thus presented me with the shot which I favoured least—the frontal brain shot. He was already very, very close, but still a few branches impeded the line the bullet must take. At eighteen feet—measured later by my surveyor friends—his head came out clear, and at that distance it was such a vast head. The last rays of the sun fell through the jungle upon his form, increasing its bulk, and at the shot his forelegs gave way for a fraction of time, then leaned sideways and as some lesser supporting saplings broke under his weight, crashed on to his side.

There was little doubt that he was quite dead, but I had heard and read too much of 'dead' elephants which have suddenly got to their feet,

having been only stunned by a shot passing close to the brain, and then walked away before the astonished hunter could do anything about it. So, I fired another shot into his chest, to prevent such a happening.

I must here pay a big tribute to my friend Aiyamuttu who had the self-restraint to watch with his shotgun loaded with lethal ball raised to his shoulder, waiting for me to fire while the elephant approached closer and closer. I had strictly enjoined him that he was to fire only if I had fired and failed to bring down the elephant. But, it must have required great forbearance on his part to have kept from firing under the circumstances.

The tracker Chellappah, totally unarmed, had insisted on accompanying us in the final approach, although we had asked him to stay well in our rear after we received the first indication of the elephant's presence. He was at all times a man of few words and unmoved exterior, and even at this stage when Aiyamuttu expressed, open rejoicing and relief, he only smiled quietly.

When we examined the fallen rogue, we found him to be a comparatively medium-sized elephant, but thickset and past middle age judging from the folding of his ears, and the nature of his forehead. He also had a slightly emaciated left hind leg with a broken toe nail. This explained a peculiarity in his footprints which the villagers had told us about, and which we ourselves noticed when tracking him.

The Kengai, or country along the Verugal river bank, which the rogue had chosen for his feeding grounds at this time is a beautiful stretch of land to hunt in, with long open stretches of high grass very slightly yellowed by the heat and the Kachchan wind, studded with small short trees richly leaved.

Along the bank there is the only unfailingly green vegetation in the whole of that parched area in which the Verugal rogue elephant passed its last days, and died swiftly and unknowingly.



A watcher at the Government Cattle Farm, Bopatalawa, with a leopard and a wild boar which he shot when the two animals were fighting. The leopard weighed 140 lbs. and measured 6½ ft. from head to tail. The wild boar weighed 200 lbs.—(R. D. P. Waidyaratne, Bopatalawa)—Times 2.6.60.

WHO IS THE PREY ?

By R. D. P. WAIDYARATNE,
Manager, Cattle Farm, Bopatalawa

THE leopard and the wild boar are the 'Kings' of the up-country jungles where the elephant and the bear are not heard of.

In the cattle farm at Bopatalawa it is a common occurrence to find in the morning footprints and other evidences to indicate combats between these two great fighters the previous night.

From the watcher and hunter, J. M. Kalubanda, who has now shot four leopards on this farm, I gather that the leopard is the usual aggressor. It adopts the tactic of following the boar and engaging it in a series of fights designed to exhaust its quarry. Then it springs on its victim and tears it up.

The leopard has the habit, this hunter says, of getting on to an anthill or rock when the boar rushes at it, and makes passes with its paws inviting attack, just to tire him out. The boar, in desperate attempts to get at the leopard, lunges with its tusks and hits the hard ground, injuring itself and often breaking its tusks, its only weapons of defence.

The two animals seen in the photograph were engaged in a fight in a paddock, when the watcher on his rounds about 10.30 p.m., heard a loud 'purr' and a 'grunt.' As he approached, he noticed the two animals trying to attack each other. When he flashed his torch they broke

apart, but they were both still aggressive, and unwilling to give up the fight though a man armed with a gun threatened them with death.

The watcher, taking advantage of their 'no retreat' attitude, fired at the wild boar first. Though mortally wounded it rushed at the leopard who awaited him. As the fight went on the watcher fired at the leopard, and killed it instantly with a bullet through its head. The boar charged once more at his motionless foe,

and himself fell dead.

Was it a human victory?

The leopard measured $6\frac{1}{2}$ ft. from nose to tip of tail and weighed 140 lbs. The boar was 200 lbs.

Since that episode the female of the leopard has been prowling about the farm. And one night there were signs to show that she had been engaged in a fight with a wild boar.

It would seem that the leopard's delicacy is now the pig and not the sambhur.

The "Rock River" Story

By ROMAN W. SZECHOWYCZ

THE Gal Oya River is full of interesting historical associations and if the river could talk, the story told by her would be worthy of record. In recent times the name "Gal Oya" has become a symbol of the new Lanka, a symbol of new spirit with the endeavour to obtain not only complete political but economic independence as well. The new development scheme derives its name from the river, which since 1951 (in which years she was tamed by a dam built at Inginiyagala) is forced to perform full time work for the country.

Gal Oya starts in the Uva Hills at a 4,000 feet elevation, and flows down rapidly. The first historical mark is found 7 miles from the source on the right bank of the river at the point where the road from Lunugala crosses it. There is a white square monument, a memorial to Sylvester Wilson, the first representative of the British Government in Uva who was killed on this spot by an arrow on 16th September, 1817, the first casualty in the riots which started in the Gal Oya Valley against British rule by the pretender to the Kandyan throne, an ex-priest who assumed the title of King Doraisamy.

Close to Bibile, the river enters the Nilgala plains. This part of the Valley is covered with beautiful savannah (damana) forest and is the home of elephants and other wild life. In 1857

the Governor of Ceylon, Sir Henry Ward, inspected this part of the Island crossing it by foot from Bibile to the coast along the course of the Gal Oya. He described the scenery as follows :

"All that Nature can do, to make a country attractive, by most beautiful combination of mountains, forests, rivers, fertile valleys and rich grazing grounds upon the hills, is to be found, scattered, with profuse hand, over this space of about 70 miles which comprises a portion of which is called the Park"

The river having grown bigger with several tributaries, passes the abandoned Nilgala village where at present a small circuit bungalow built for the benefit of the visiting officers exists. Close to this place many ruins bear witness of the splendid past. According to tradition, the pretender to the throne, Doraisamy, organised his followers in this place. Below Nilgala, the river bed becomes very rocky forcing its way through a small range of hills. One has to see this part of the country to understand why this stream is called Gal Oya (*Gal—rock ; Oya—river*).

Thirty-three miles from its source it flows into the newly constructed Senanayaka Samudra reservoir at a point where the ruins of an ancient fort are found. This fort was established by the British army in 1817 to secure communi-

cation with Batticaloa from where a detachment of soldiers was sent to Kotabowa, a village close to Bibile, to quell the disturbances and maintain peace. One of the soldiers (Galladine) maintained a diary and the crossing of the Gal Oya which took place on 30th October, 1817, is described as follows :

" . . . next Pattipola Aar was reached. This the men crossed with bundles on their heads, but to transport the stores which 300 bullocks carried was not an easy matter. A rope was secured at some height above the water and fastened to trees on the bank, and on this the bags were slung and hauled across by a second rope, a task which occupied many hours.

"The Sinhalese were watching unseen and occasional arrows kept the soldiers alert. Wild life was abundant, herds of elephants and deer passed by and myriads of leeches which appeared from all directions proved a terrible pest . . ."

Pattipola Aar is the Tamil name given to the lower segment of the Gal Oya river. The river was faithful to her country and so were the leeches. The Military post at Makarai was, however, not kept for a long time and was soon abandoned. The diarist records :

" due to violent outbreak of sickness which first showing itself towards the end of July at the post of Pattipola Aar on the banks of the river, soon spread to Kotabowa, where in the two weeks the garrison was prostrate. Nine Europeans were buried in the last week of August, but while they and Malays proved very susceptible to infection, the Caffrees remained immune . . ."

A further 4 miles east, now covered by the reservoir, there existed hot water springs. A big cave with stone wall partitions exists about 2 miles north from the edge of the water spread near this point. According to local belief Sinhalese queens found refuge in this cave when the enemy invaded the country. On such occasions the kings entrusted their wives to the Veddas who were faithful to the throne. Until today a few Vedda families have survived civilisation and are living in this part of the Valley.

Not long ago Tissahamy the Vedda outlaw found refuge in this area and evaded the police for 15 years.

Further down stream the majestic Westminster Abbey rock called in Sinhalese (*Govinda Hela*) overlooks the Valley from the south. King Buwaneka Bahu I (1271—1284) ruled the country having built a fortress on this rock in 13th century A.D. The Mahavamsa, chapter 81, records :

"Buwanekabahu, ruler and governor of the land, whose fame has spread throughout the country, also built himself a fortress on the top of Govinda, a rock which enemy could not easily approach, and he dwelt there and defended the Ruhuna country and its religion and its priesthood."

On the top of Westminster Abbey can be seen the ruins of a castle, pokunas and walls. The scattered ruins in the Gal Oya Valley in the vicinity of this rock at Wadinagala, Dambadeniya and Perawatta provide indisputable proof that this area was densely populated at a certain period of history.

The dam across Gal Oya is built 43 miles from the source at the foot of the Inginiyagala rock, which rock has become the emblem of the present development scheme and is immortalised in the Ceylon two rupees stamp. According to local village tradition which however differs from the story recorded in the Mahawamsa, the unhappy queen Kuveni is reported to have committed suicide by jumping from this rock having been abandoned by Wijaya, the founder of the Sinhalese race.

Below the Senanayake Samudra reservoir, Gal Oya takes several tributaries of which Namal Oya, Pallang Oya and Ekgal Aru are the most important. The river touches the Amparai, Kondawattuvana and Irrakkamam tanks which most probably originated at the time of King Dutugemunu and his brother Tissa in 2nd century B.C. A report of these tanks written in 1857 reads :

" I need not point out the immense

advantage of the previous work, for which we have simply to restore what actually existed."

The restoration of the Irrakkamam Tank was completed in 1859, and the restoration of Amparai tank in 1860.

A few miles north-west of Amparai tank there is situated the abandoned Digavapi tank (long tank) where in the 2nd century B.C. the capital of the Sinhalese Kingdom was established. It was here that the Sacred "King's Regalia" and royal elephant were safeguarded. In 1953 during the present development a pillar with inscriptions dated as the 10th year of King Dappula IV (924—935 A.D.). was discovered.

This appears to confirm the local tradition that this part of the valley belonged to the ancient Digavapi Mandala which was handed over to Saddhatissa by his brother, King Dutugemunu, to raise the necessary food for the army to fight King Elara.

Before entering into the sea the river flows close to the ancient Digavapi Vihara which according to tradition was one of the places visited by Lord Buddha. In this connection it is worthy of mention that local tradition claims that at first the Wadinagala rock was visited by Lord Buddha and when He disliked this place Digavapi was selected by him as a place of meditation.

A Jungle Pool by Night

By PHILIP FOWKE

THE south-west wind which had been blowing for the past two months had parched the country to the serious inconvenience of the forest folk, but in the shade of the big trees, amidst its setting of silvery sands, the pool lay cool and inviting. Its surface was broken from time to time by the splash of a kingfisher, as he dipped in, to the constant discomfort of the shoals of small fish abounding in the water; and as the borders of their domain shrunk each day, life—to the fish—came more and more under the inexorable law of the jungle, the survival of the fittest.

But the evening shadows, which were beginning to lie across the pool, betokened a period of rest, and presently, with the setting of the sun, their tormentor passed to his roost.

As indescribable air of peace and drowsiness now pervaded the forest.

With their peculiar sunset twitterings, the bul-buls settled down for their rest, and in contrast to them were the activities of the small blue fly-catchers. On many a twig around the pool they perched, flying down at intervals for their evening bath and final drink, and their cheerful little notes bore testimony to their enjoyment of the cool waters after the long sunny day.

Presently, a couple of bronze-wing pigeons pitched in a tree overhanging the pool, and their actions were noticeable after the care-free behaviour of the fly-catchers. With their heads jerking from side to side, in the manner peculiar to pigeons, they scanned the water from every point of view before finally flying down on to the sand, and even when they arrived there the same caution was exercised.

With the greatest care, and only after many wanderings over the sand, did one of them drink from a small dip which was too shallow for even the fish to sport in, and his mate was equally cautious. In the rock-pools, where the pigeons drink at certain times of the year the turtles rise at them, and the fear of the consequence, or perhaps the memory of some frantic struggle to escape, is always present with the bronze-wings.

Presently they flew up as a small, dark animal jumped down from a rock on to a small log. His ferrety face was all aglow with life and keenness, but as everything was peaceful, the mongoose had his drink and then hunted around the margins of the pool. Food was the last thing one could see there, but in a hollow where the water had dried up only a few days previously, he found what he was looking for, and

after a little digging he made his meal off the buried fish.

It was now well after sunset, and the leaves of the trees around were being lit up by the faint, silvery rays of the rising moon, which tonight would be at the full. The notes of the birds were hushed, and peace and beauty began to reign over the entire forest, soothed by the continuous murmur of the steady breeze in the tree-tops.

A faint noise amongst the dead leaves on the far side of the pool heralded some visitor, and presently in the dim light a small herd of deer came into view. Like the bronze-wings they, too, were only drinking here under the force of necessity, if one could judge from their actions. With timid steps a doe would come forward. Then she would suddenly jump back into the shadows, where her companions were clearly under the strain of intense nervousness. But the forest did not belie its appearance, and in due course the hinds and their stag worked their way down to the water, drank their fill, and passed away.

For an hour or so silence reigned supreme. The only changes taking place in the scene were the constant flittings of the bats over the pool, and the gradual movements of the shadows as the moon rose over the forest. From time to time the notes of a nightjar, hawking some distant moths, eddied up the hollow, and then the whistling of a flock of teal, flying high overhead to some favourite tank.

At length a sound broke the stillness—a soft scrunch, scrunch, as of a heavy body walking across sand. The moon lit up the pool with a silvery brightness as an elephant emerged from the shadows and quietly walked out into the water. Its body was covered with the dust which these creatures cast over themselves in the dry weather to keep off the flies and other insect pests, now showing up as a dusty grey in the soft light.

Filling its trunk with water, the thirsty animal placed it in its mouth, and sucked the

liquid down with every symptom of absolute content. This was repeated five or six times, and then, backing out of the pool, the elephant climbed the bank in almost dead silence and sought an adjacent thicket in which to slumber away the hours until he should be astir again at early dawn.

Later came the opposite type of visitor.

The careless shuffle of feet amongst the dead leaves betokened one for whom the forests held not much to fear, and as a black form loomed up on an open patch of sand, the moon shone down on a bear.

But he was not here to drink, for, like all his kind, he preferred the cooler waters which his big claws would presently dig into beneath the roots of some kumbuk tree, where the bed of the stream was dry. So he passed on, followed at a little distance by his mate, and black and surly they looked in the silent shadows, with their heads swinging from side to side in an endless search for fruits and hidden roots.

The moon was riding high overhead, and the forest had been quiet for some hours, when suddenly an agonised cry broke the dead stillness. Weird it sounded, with an almost human note in it, as it died away through the distant trees. Only the last scream of a sleeping monkey, taken in the jaws of a leopard—a tragedy constantly enacted in the jungle world.

Following his meal, the killer approached the pool, and very quiet were his actions after those of the bears. Like a huge cat, he crouched and drank, washing the blood from his mouth as he did so. He passed on through the mottled shadows with his silent tread, and quiet fell on the forest again.

In the darkening hours towards morning, after the setting of the moon, a cool breeze blew through the trees. The visitors ceased, and the waters lay undisturbed; but with the rising of the sun the kingfisher returned, and only the imprints in the sand bore testimony to the life which had visited the pool during the night.

AL FRESCO

By LEANDER

In *The Observer*

AL FRESCO is one of those words—all right, two of those words—that everybody vaguely knows the sense of but cannot precisely derive. Which is a pity.

Because most folk imagine that *Al fresco* suggests informality and lack of planning and preparation and consequent poor quality, to be put up with only because it is occasional, contingent, at best a break in routine and welcome (if at all) only as such.

This, of course is pure drivel. *Al fresco* merely means “in the fresh (air)”; and whatever you do in the fresh air, whether eating, bathing, living or sleeping, may be—and not only may be but *ought to be*—undertaken with as much forethought as anything you do within doors.

Forethought ; and, if you like, even formality. There is no reason at all why your picnic meal should not consist of roast duckling with orange sauce and a bottle of Chateauneuf du Pape to go with it, laid upon damask, and eaten with sterling silver. String-hoppers off a plantain leaf are more practical, that's all.

And, of course, your picnic doesn't have to be a meal—at any rate, not a full-sized one—although without a meal of some sort the dictionary would deny your outing the name of picnic.

O.K., then, let picknicking go ; let the accent fall on bathing under a *peella*, the water like a club of ice flailing your body with a delicious torment so that the warm, soft strokes of the sun seem to caress you like the hands of a girl or in a mountain stream with its water here white as lace, there green as a zircon, and there in the sandy shallows as yellow as amber ; or in a jungle rivulet where fingerling fish nibble friendly at your knees ; or simply at the well at the bottom of your garden where the water of each gurgling potful falls like a shower of golden coins about your head and shoulders.

Or let the accent fall on rambling where your car can't go and nobody else's car, God be praised, can follow you. Get out from under the

roof of that saloon, breathe fresh air for carbon monoxide, exchange the oven heat of the tonneau for the cool shade of jungle paths and the wind from empty fields; take your eyes off the road and turn them on footpaths winding round a hill or skirting a village tank or meandering by sunbright water or hurrying through a forest.

Or let the accent fall on merely being still. Birdwatch if you must, if you will call it birdwatching to take a childlike pleasure in the kaleidoscopic patterns that nature is continually shaking into place from the minivets like garnet chips, the emerald chloropses, the orioles yellower than a beryl, the ruby-red woodpeckers, sapphire-blue flycatchers But don't make an effort of this. Spread a mat beneath a tree, in the under-water light that falls between a tree's branches. Or carry a folding chair in the boot of your car and set it up just off the road. Or do no more than put your feet up on a lounge in a quiet resthouse garden . . . All you need do is get back, even for a moment, to the natural environment, the instinctive peace, to which the human body and spirit are properly attuned.

One of the most galling frustrations of being merely Leander is the concatenate circumstance of being phenomenally incapable of influencing people : though they listen politely enough to what I have to say, they remain uninfluenced to a degree that I find frankly astonishing. And then a matter of a few years later someone or something influences them like mad in the direction of the very thing I was advocating my head off.

I enthuse for years over some such divertisement as photography, or recorded music, or astronomy, and no one gives my most passionate recommendation a second thought. And then along comes someone with a gimmick such as a miniature camera, or hi-fi, or a sputnik, and everybody's not merely a keen photographer or listener or star-conner but a devotee out to convert me to his cult !

Well, everybody is a missionary at heart ; and I wish you would allow yourself to be guided by me in this matter of the Call of the Great Outdoors. It's a line I've been plugging for thirty-five years and it would be a comfort in my old age to know I had earned your gratitude by putting you on to what I assure you is a good thing.

I have a friend, for example, for whose intelligence and sensibility I have always nursed a deep, if wary, respect. For his part he did little to conceal the fact that he considered my devotion to "nature"—like Wordsworth's—bordering on feeble-mindedness.

Not long ago, however, looking for solitude for his honeymoon he spent a week in the tank districts ; and discovered, as I knew he would, that solitude (nicely modified by an appropriate

presence) in such an environment held charms that the uninitiated might never expect and which my friend—now that he has initiated himself—is determined to seek again at the earliest possible opportunity.

It was only to be expected. Some day when I am gone someone will come up with a thing—a captivating tent ; or the notion that it might be intellectually stimulating to visit the scenes that Leonard Woolf peopled with his village in the jungle—and I shall look down a little ruefully on unaccustomed guests star-scattered on my grass and say, to myself : "I told them so !"

I only hope the Elysian fields will be green and windblown enough to make up for those in which I shall have been usurped by the most unexpected people.

A National Forest Policy

By R. A. D. ROSYRO, B.Sc.
Assistant Conservator of Forests

A NEW National Forest Policy in Ceylon was defined in 1953 by the Forest Department and accepted by the Government. Among the principles of the new National Forest Policy is firstly "the maintenance, conservation and creation of forests for the preservation or amelioration of the local climatic conditions and the soil and water resources and for the protection of local fauna and flora where they are required for aesthetic, scientific, historical or economic reasons." The conservation of forests and the conservation of wild life are so closely allied that one cannot conceive of forests without wild life and *vice-versa*.

The most recent Plans for the development of the national resources have paid particular attention to the development of forestry as an integral part of land-use. Although in the near future, the accent will be largely on the development of our agricultural resources of the Dry

Zone by intensive schemes of irrigation, the Plan which has now been accepted by the Government has laid down an adequate area of forest for the development of forestry and for the conservation of wild life. The total extent of forest which will be available for this purpose covers approximately one-half of the total land area of Ceylon. Provided that a strong National Policy is adopted by the Government, this will be more than adequate for the needs of economic forestry and finally there will be sufficient tracts of forests which will be retained as natural reserves in their present form for the preservation and maintenance of wild life. In preparing such a scheme, close attention has been paid by both the Forest Department and the Wild Life Department to provide continuous belts of forests to allow animals such as the elephant, space to migrate from their present environment to other natural reserves, when forests which

now constitute part of the wild life reserves will ultimately disappear because of irrigation and agricultural schemes.

The creation of public consciousness in the role of Forestry and Wild Life in the development of the State can be fostered in a country such as ours by education, precept and example. The United Nations F.A.O. decided in 1952 that member Governments should encourage the progress of forestry firstly by initiating courses of education to students in schools, universities and teacher training colleges; secondly, by creating centres of recreation and tourism whereby the practical aspect of forest protection and forest production could be readily observed,

and finally by propaganda "to spread the aims and ideals of the sustained development of forests and other natural resources amongst the people of Asia and the Pacific".

The Wild Life Exhibition which was held in May this year must play an important part in creating public consciousness not only in the preservation of wild life as such, but also in the creation of a new spirit towards the entire heritage of forests and wild life which is ours to preserve and maintain.

To all those who have the interest of our forests at heart and to the future generation in particular, I would commend the following exhortation:—

TO THE WAYFARER

(Poem fastened to trees in the Portuguese forests)

*"Ye who pass by and would raise your hand against me,
hearken ere you harm me.*

*I am the heat of your hearth on the cold winter nights,
the friendly shade screening you from summer sun,
and my fruits are refreshing draughts, quenching
your thirst as you journey on.*

*I am the beam that holds your house, the board of
your table, the bed on which you lie, the timber
that builds your boat.*

*I am the handle of your hoe, the door of your home-
stead, the wood of your cradle, and the shell of
your coffin.*

*I am the bread of kindness and the flower of beauty.
Ye who pass by, listen to my prayer: harm me
not."*

The Salvinia Menace

By C. V. WICKRAMANAYAKE
In Observer

ONE of the principal drawbacks in the fight against Salvinia, hitherto, has been that no attention has been paid to the fact that to eradicate salvinia once and for all, it is necessary to ensure that this fern—for it is, indeed, of the fern family—would not be brought back to the areas from which it had been wiped out. One heavy shower of rain, one minor flood, and the salvinia is back in its old haunts, and the battle has to be fought once more.

The campaign, up to now, employed 450 men, working in units of seven, with eighty sprayers at their disposal. But, in spite of the fact that statistics proved that these seven men could, if they wanted to, work an average of four to five acres a day, the output of work actually done has always been less than two acres a day and more often than not, just over one acre a day.

Dr. P. H. Grigsby, the U.S.O.M. consultant now working with the Department of Agrarian

Services has now broken new ground in the salvinia control campaign.

Armed with fifty smaller sprayers, which can be carried by one person, he picked out six villages on which to try out his first experiment. He picked out the villages that are the highest in elevation.

Salvinia has been eradicated from these areas and the campaign will now be moving down to the areas just below. This will ensure that neither rain nor flood water can wash new growths of salvinia into the areas that have been cleared. In the course of time, each basin will thus be completely cleared of salvinia.

Where seven men used to spray an average of a little more than one acre a day, today, one villager, armed with his knapsack sprayer containing five gallons of concentrated herbicide, has been known to spray two acres a day, at least. What Dr. Grigsby has done is to give the sprayers to the villagers who then get down to the business of spraying their own fields. This has been a tremendous saving on labour; by this method the cost to government has been reduced to only about Rs. 32 to eradicate an acre of salvinia-covered land, where, in the past it had cost ten times that figure.

Dr. Grigsby is also working on the reproductive aspect of salvinia, and has discovered that although the variety of this fern which grows in Ceylon is exactly the same as that found in South America, and other countries, the Ceylon salvinia grows much larger.

And salvinia grows twice as fast as any other plant because it has two methods of reproduction. Salvinia reproduces "sexually" as in

animal life, and also on the same principle as the *Amoeba*: each plant splitting up into a number of other plants which in turn, after a short period, break up to form more plants. This is one of the reasons why the campaign has been so slow in achieving success.

The other method, of sexual reproduction, is still being studied by the scientists. It is known now that attached to those little root-like tendrils that hang from the salvinia plant, are tiny globules that can be seen through a microscope. Each globule in turn contains two other globules, one smaller than the other.

Scientists have found that the smaller globule contains a "sperm" while the larger one contains the "ovum". When the globule matures, the sperm joins the ovum to form a seed from which grows a new salvinia plant.

"We have not yet seen this process in the salvinia plant, though it has been found to exist in other plants of this type," explained Dr. Grigsby. "But even if this process did take place in the salvinia, the speed of reproduction would not be so great as to cause alarm. It is the other process of reproduction that we are really fighting."

A large measure of the success Dr. Grigsby and his men have achieved is due to the co-operation of the Rural Development Department's officers and the Agricultural Instructors in the villages.

"They know the people of the area and have been very helpful to us," said the Botanist. "I don't know what we would have done without them."

Silverfish Breeding

A REWARDING HOBBY

By Dr. HILARY CRUSZ, F.Z.S.

SILVERFISH or bristle-tails (Sinh. *kaavo*) are very familiar insects to bibliophiles and office-wallahs. They are found mostly in old books, files and waste-paper baskets, but their

original home was in the wild, where they live even today in a variety of habitats, under stones and rotting bark, among ants and termites, and even in squirrels' nests. These little wingless

creatures are among the most primitive insects living and most certainly had a tropical origin.

Of the many genera and species of silverfish, *Lepisma*, *Lepismodes* and *Ctenolepisma* are the best known and are well established all over the world, in the tropics as well as in temperate lands. Their tropical origin is shown by the fact that in temperate regions they are almost all confined to houses. *Lepismodes inquilinus* (= *Thermobia domestica*), in particular, is fond of the warmest places near baking ovens and fires, for which it has earned the nickname 'fire-brat'. *Lepisma saccharinum* (the silverfish *par excellence*), on the other hand, is less heat-loving and more fond of moisture than the fire-brat, hence it is a familiar creature in European bathrooms. All these species have a wider distribution in tropical countries. For instance, *L. saccharinum*, for all its world-wide reputation as a domestic pest, has been found in the nest of a palm-squirrel in Agrapatna, Ceylon, clearly indicating its tropical origin in the wild.

These little creatures can offer endless pleasure to all Nature-lovers and hobbyists. They make excellent pets, can be bred easily and provide ideal material for learning some of the interesting secrets of growth and reproduction in the insect world. A particularly beautiful pet is *Acrotelsa collaris* (Fig. 1), our largest and commonest silverfish, easily recognized by its very dark metallic hue, shining white 'collar' (hence, *collaris*), pointed posterior end (*acro-telsa*) and three magnificently spread, bristle-like 'tails'. A group of these insects inside a spacious culture-jar or trough makes a really pretty picture.

I have been rearing these insects for quite some time now, probing their insides for parasites.* So completely fascinated have I been by their activities such as feeding, movement, moulting, colour-change due to shedding and reappearance of scales, and all their antics leading up to the hatching of snow-white nymphs from little brown eggs, that I have thought it worth-while to set out a few of the very simple methods

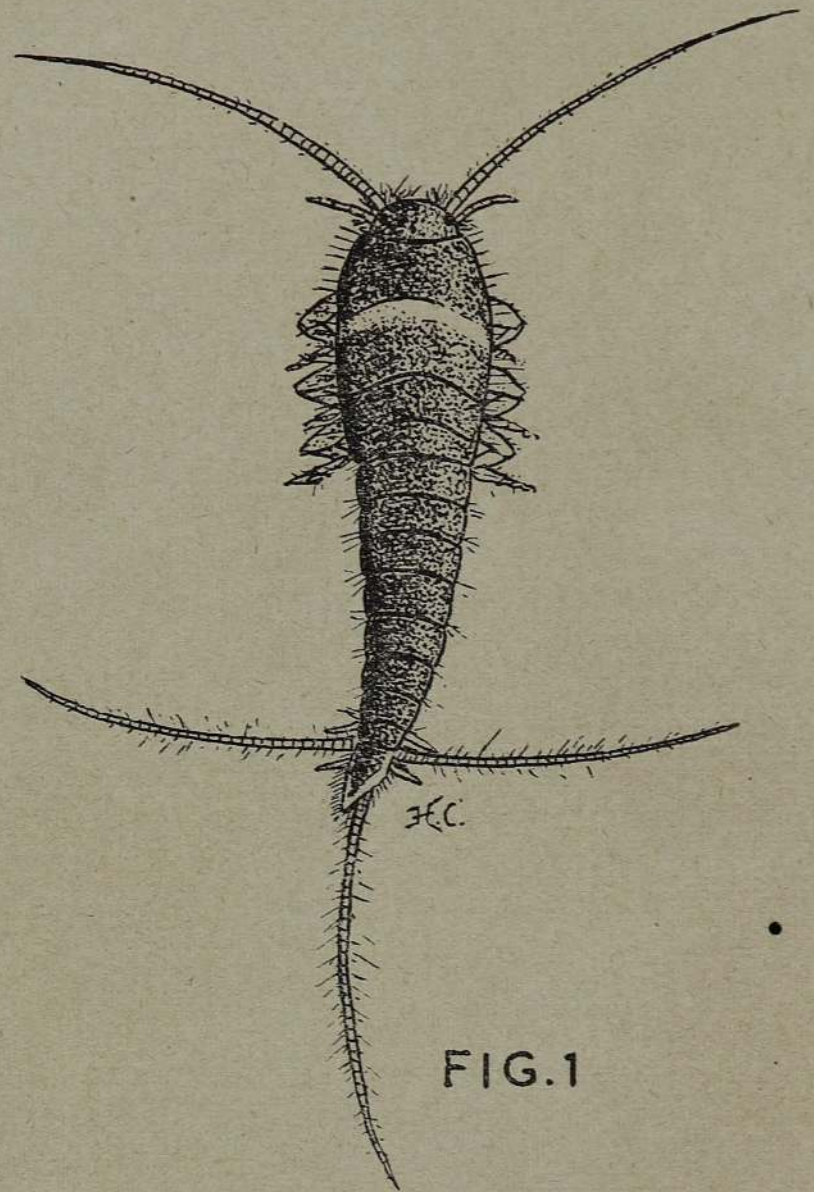


FIG. 1

adopted in breeding them.

COLLECTION AND KEEPING

The first thing to do is to collect as many acrotelsas as you can from your wicker waste-paper basket or from old books and papers, and keep them in a specially prepared home. Any wide-mouthed bottle or battery-jar would serve as a home. The wider the mouth of the bottle the better your chances of observing the goings-on inside. I use a glass trough (Fig. 2, A), 8-10 ins. in diameter and 4 ins. high. Silverfish cannot climb the smooth wall of a glass vessel for any appreciable distance. Inside the trough are stood long strips of clean, white

* See Proceedings of the Zoological Society of London, Vol. 135.

paper (B), folded zigzag like the bellows of an accordion. These stand 2 ins. high and are therefore much shorter than the trough itself. They are rather closely packed inside the trough, providing a large surface area for the movement of the insects as well as niches and privacy for various other activities.

FOOD

The next important requirement, of course, is food. Silverfish are detritus-eaters, but domestic silverfish normally feed on the starch in book-bindings, wall-paper, envelopes and so on. An ideal food for our purposes is Quaker Oats or any other brand of rolled oats. This is well ground in a clean mortar and a heaped teaspoonful of the powder is put into a little paper trough (C), made by folding up the four sides of a 2 in. square piece of paper. Two such food troughs are placed inside the glass trough, at opposite ends. Unfortunately our white-collared silverfish is not a vegetarian. Many other species can thrive heartily on a Quaker Oat diet, but *Acrotelsa collaris*, if not provided sooner or later with pinches of well-ground, dried meat, will turn cannibalistic and begin eating up its fellows one by one. So here is an interesting food-habit which should give you endless pleasure experimenting with. You can vary the diet in a number of ways and observe the reactions of these creatures. Cannibalism can also be brought on by overcrowding and starvation. So that when conditions are excellent and breeding prolific, some of the insects will have to be moved into new quarters to relieve congestion and prevent cannibalism.

TEMPERATURE AND HUMIDITY

Two other necessary conditions are temperature and humidity. Providing the correct temperature-range is no problem in Ceylon, for room temperatures here are quite favourable to silverfish all the year round. But in countries like England silverfish have to be bred in constant-temperature chambers with tropical warmth. Humidity, of course, will depend on the district in Ceylon in which the insects are being reared.

Colombo, for instance, is very humid and *Acrotelsa* can thrive well without any special water-supply. I sometimes wonder how it can grow so well and multiply so prolifically in the comparatively dry confines of my waste-paper basket, from which I got my original supply of silverfish. Nevertheless, I always provide moisture for silverfish in captivity by merely standing inside each trough a glass bottle or tube (D) containing water. The idea is merely to provide a humid atmosphere. The water itself should be out of reach of the insects or they would easily drown in it. Species like *Lepisma saccharinum* need a more liberal supply of moisture, particularly in regions that are not so humid as Colombo. Moistened blotting-paper has always to be within easy reach of such species.

EGG-LAYING AND HATCHING

We have now attended to nearly all the physical needs of our pets. Well provided with living space, dark corners, food, temperature and moisture, they should thrive well and grow up happily, mating off and on to ensure the continuance of the species by an increase in numbers. Sooner or later the females will need comfortable places in which to lay eggs. A small loose wad of cotton wool, placed in a suitable spot, away from food and moisture, is all that is necessary. If you like to provide a more elaborate and easily removable 'nest', you can put the cotton wool into a 1—1½ inch diameter glass tube (E), which is then placed horizontally inside the trough, making sure that the insects can easily enter the tube on a carpet of cotton wool. Gravid females will soon make their way into the cotton wool and begin laying their eggs in it. Egg-laying is facilitated by a special organ called the ovipositor carried at the tail end of the female.

A cluster of eggs of any animal is a thrilling sight to any lover of Nature. Silverfish eggs may not be as large and beautiful as the eggs of some birds, but they are nevertheless a joy to behold, because they too are harbingers of new life. These little, round eggs, whitish at first and then getting tanned with time, are only about 1 mm. × 0.75 mm. in size and about

20 in number (from a single female). They remain unattended in the cotton wool until they hatch out in less than a month's time. One fine day you will see about 20 nymphs, bright little images of their parents, but for their size and colour, moving in and out of the cotton wool and feeding voraciously in the rolled-oat troughs. If you follow these incredibly dainty creatures through their early life, you will notice that growth is accompanied by periodic moulting of their skins. So motionless does a nymph become after each moult, while it is waiting for a new skin to grow, that you might take it for dead. At this stage nymphs are very vulnerable to enemies. Tiny flour-mites and some small insects called psocids are particularly dangerous, so that it is very important to keep troughs absolutely clean and free from such pests. A good precaution is to stand the trough on a tripod with well-greased legs (F), so as to prevent pests from climbing up to it. Heat-sterilization of the rolled oats will prevent the appearance of flour-mites. The trough may also be covered with a loosely fitting lid. After some months, mating will take place even between members of the new generation of silverfish, and so the story continues, as long as conditions are favourable.

The life-history of *Acrotelsa* can thus be followed closely, stage by stage, and you will have excellent opportunities of observing these stages with the help of a simple lens or even with an inexpensive, low-power microscope. The general outlines of development within the egg can also be traced without elaborate technical equipment. A new world will be opened up for you and many an hour can be excitingly spent in this truly fascinating and rewarding hobby. Perhaps at the end of it all you might want to learn more about these insects, which are so close at hand in our homes and out of doors. A list of local silverfish is given below. Reference to a textbook on entomology will teach you something of the simple structure of these insects.

SILVERFISH SPECIES IN CEYLON

1. *Acrotelsa collaris* (Fig. 1). Common, large species, 15 mm. (average length of adult), easily identified by its white 'collar' and pointed posterior end. Widely distributed in Ceylon. I have collected it in Colombo, Galle and Trincomalee.

2. *Peliolepisma calvum*. Small creature, growing up to about 9 mm. in length. Common in Ceylon. I have collected this species in Colombo and other west-coast towns and in Kandy.

3. *Lepisma saccharinum*. The most 'silvery' of silverfish. Although a cosmopolitan species, it does not seem to be as common here as the previous two species. Wygodzinsky has found it in the nest of a palm-squirrel in Agrapatna (4,800 ft.). It is smaller than *A. collaris* but larger than *P. calvum*.

4. *Ctenolepisma longicaudatum*. A large species, like *A. collaris*, but is lighter in colour and lacks the characteristic 'collar' and pointed posterior

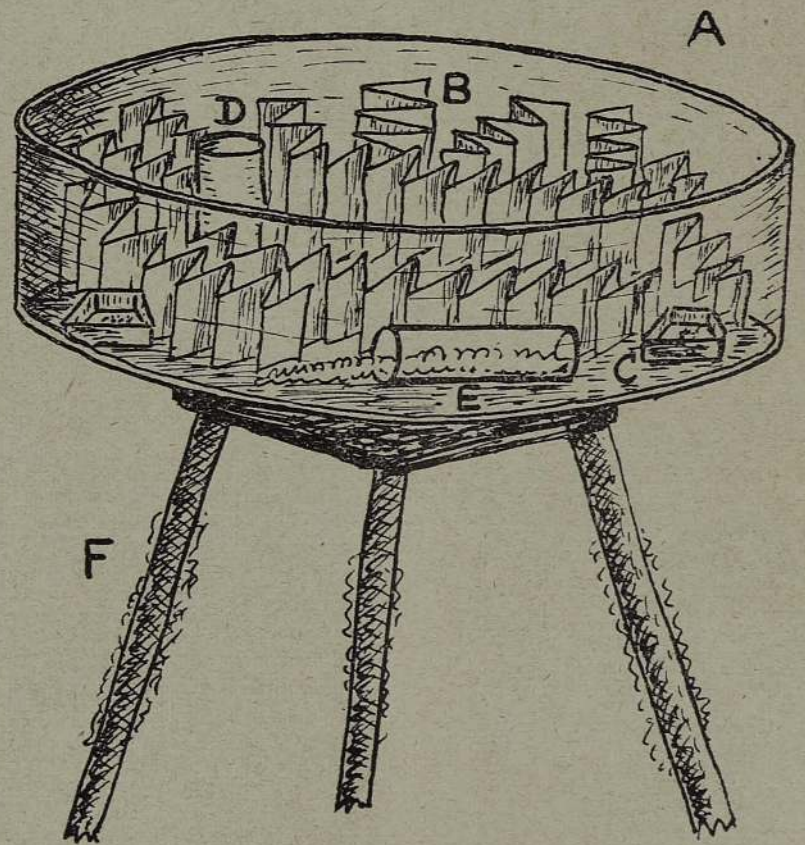


FIG. 2

end of the latter. Not very common in Ceylon.

5. *Ctenolepisma nigrum*. Blackish and easily mistaken for *P. calvum*, from which it can be distinguished only with difficulty. So far found only in Peradeniya and Hingurakgoda in Ceylon. Also found in India, Java and Flores.

I have not yet come across the fire-brat, *Lepismodes inquilinus*, in Ceylon, although it has

been found in India.

It must be stressed that these are all *domestic* species of a class of insects called the Apterygota (Greek for 'wingless creatures'). Many relatives of these species are found in Ceylon and elsewhere, in various other habitats. The whole group is interesting because it is primitive, standing at the very threshold, as it were, of the insect world.

Feeding and Housing of Aviary Birds

By A. N. WEINMAN

Director, Zoological Gardens, Ceylon, in "Game Bird Breeders and Agriculturists Gazette"

FOR many years breeding of wild birds has been a hobby of mine, because this aspect of aviculture is filled with surprises and involves a good deal of adventure.

• Many aviculturists still take bird-keeping too seriously and have turned their hobby into a very grim battle. I have always looked upon it as a sport and one of the best at that.

I feel that the sporting side of it lies in an attempt to force nature to disclose such secrets that prevent us from getting the best results.

It is so full of disappointments that it is a game which should never be taken too seriously.

All aviculturists know that two things are of outstanding importance. First of all, correct feeding; and secondly, suitable accommodation.

Correct *food* is that which during countless ages of evolution in nature has been adopted by a given species. Briefly, the food that is the natural food of any species is the correct food, and this is where a large number of problems start.

We still know far too little about the natural habits of many of the birds so commonly found in captivity.

Those who keep birds from foreign countries have had no opportunity of studying their natural habits except from the information con-

tained in books which is by no means as satisfactory as first-hand observation.

Birds in their wild state, particularly those that live in scrub and wild country, are very difficult to study, and the reasons are obvious. To make a complete study of a single species would take almost a lifetime.

Remember that individuals would just touch on the fringe of the subject, because each bird would have its peculiarities in addition to characteristic habits. The study of only a few individuals might give different observers different ideas.

Moreover, there are several habits in a species which change from year to year, and from season to season, depending upon such factors as variation of climate and other conditions of the country in which they reside.

The foods used normally sometimes require the addition of certain ingredients to improve their dietetic value, and these additions usually comprise vitamins and mineral substances.

After many years of bird keeping, I have by trial and error arrived at a simple supplement that has served me much better than ones usually recommended. I have used it for many years and have not succeeded in improving it in any way. Scientifically and practically it embodies the result of modern food research.

The supplement I refer to only applies to seed eating birds and is a mixture of tricalcium phosphate, sodium phosphate, precipitated chalk, salt and traces of iron, copper and iodine salts.

This mixture has been found to be excellent but depends for complete success on the presence of the essential vitamins. All dark green foods and the yellow ones, like carrots, contain all of the essential vitamins except the ones in Cod Liver Oil.

We now come to the question of adequate housing. Housing does not mean just complete protection from the weather. This is of little importance compared to the other aspects of the question.

The point to remember is that the most essential requirement in the housing of birds is to permit nature to exercise a very natural and physical hardening of the individual.

Proper food will develop sound healthy birds hatched from eggs from properly fed parents. It is absolutely essential that nature should be given every opportunity to weed out any birds that are unfit or imperfect.

This culling is most important, as obviously we are not in a position to say which bird after it is hatched is fit or unfit to propagate its species, and which nature prefers to eliminate.

Particularly where in-breeding takes place the greatest importance must be placed on natural selection.

We have to choose the best birds if we want to make the best results. Of course, I admit the difficulty in that only nature is able to tell which bird is worth rearing or which bird is worth saving.

What I try to do is to allow nature herself to do the weeding out of the weaker birds. I have my perches very sparingly put into my aviaries, and also take great care just where I fix them.

I strive to leave most of the aviary free from unhindered flight. After all, it stands to reason that a bird is essentially a creature of the air, and restrictions of its flying activities meet only with limited exercise.

Birds in aviaries and in confinement fly far too little and perch much more than is good for them. The bird's wings are naturally more powerful than its legs and feet, because the latter are only a secondary aid to flying. We are apt to forget that a bird's entire system is built for flying.

I suggest that perches should be placed at least six feet from the ground in order to force birds to use their wings whenever they wish to fly up or down.

It is also a good thing to put in just so many perches as will permit a bird to sleep in comfort and not in close proximity to its neighbours.

This is important because different species vary in temper and amiability towards their companions.

The salient point is that the higher the perch can be fixed, the better, and it is a good thing to endeavour to fix all at the same level to prevent squabbling for position. This also enables one to enter unhindered.

Perches should be fixed so that they hang or swing. When some birds are removed from an aviary, a certain number of perches also should accompany them.

Swinging perches are very good because they keep the birds alert and active, whereas those that are static encourage sluggishness and tend to make the birds run into fat.

Nature is a hard mistress, and wild birds have to be constantly alert if they wish to protect their lives.

Those who have had opportunity of observing wild birds in their natural state, and the same birds in captivity, will soon notice the change.

When at large, some birds will have an alert look, a graceful poise and extremely bright eyes.

Those in captivity have eyes that incline to be full and sleepy; they are not so active and appear to be lackadaisical.

Birds like Peking Robins take a lot of time before they degenerate, but they are unique in this respect, and not many species have the same quality.

Unless kept properly, many species tend to

become sluggish in captivity. Take Java Sparrows for example: under correct treatment few birds are more active or attractive.

To go back to the high perches these will show soon after the birds are hatched, which of them are fit to grow up and be used for breeding.

Such fledglings as are unable to take themselves to the high perches obviously have some defect, and this is most likely to be communicated to

the offspring. And birds that survive are fit for their mission in life, viz., breeding.

If there are young birds in my aviaries that are unable to fly well enough to reach the high perch, I don't bother to give them special attention, and I take good care not to breed from them.

With most people, it is the practice to give young delicate birds special attention, but in my experience I feel sure this is a mistake.

Why I go Bird-watching

By E. B. WIKRAMANAYAKE

PEOPLE often ask me the question "Why do you go bird-watching? What do you do? Do you just sit and watch birds through your binoculars?" Put that way bird watching seems inexpressibly silly. In this article I propose to explain why I indulge in that seemingly idiotic pastime. It may not be the reason why others do it. James Fisher in his book *Watching Birds* says: "The observation of birds may be a superstition, a tradition, an art, a science, a pleasure, a hobby or a bore; this depends entirely on the nature of the observer."

In my case bird-watching is a pleasure. Wild birds, said W. H. Hudson, must be looked at emotionally. He was discussing the collection of birds in museums which was distasteful to him. Watching birds emotionally tends to fix them in one's memory and the recollection of these emotions in tranquillity can be the source of never ending pleasure. I have still a vivid recollection, for example, of my first meeting with the Skylark although it was nearly forty years ago. It was in a little village in North Wales called Pwllheli. I was spending a short holiday there in April. The weather was warm and pleasant and one evening I was lying in the heather which covered the little strip of land between the sea and the house in which I lodged, when a little bird darted out and sprang into the

air. Higher and higher he flew in spirals singing all the while until he was almost lost to sight. Then he folded his wings and dropped like a stone. When he was a few feet from the ground he spread his wings again and settled on the ground. I lay there for about an hour watching while the Skylark continued to repeat his performance until it was too cold to be pleasant out of doors. Probably there was a nest somewhere, but I did not trouble to look for it. I should not have found it even if I did.

Anyone who feels jaded in Colombo and is in need of a tonic has only to get into the train to Bandarawela, step out on to the patnas and listen to the song of the skylark. If he is lucky he will find a number of birds in the air at the same time. Our skylark is only a faint counterpart of his English cousin. Neither its flight nor its song are as sustained. But it has the same capacity for giving enjoyment.

In June, 1955, I accompanied Major W. W. A. Phillips and the American Ambassador His Excellency Philip Crowe on a bird-watching expedition. We went to Pottuvil in search of ground nesting birds. We found the nests of a large number of species—Little Terns, Red-wattled Lapwings, Black-winged Stilts, Large and Small Pratincoles, Kentish Plovers, Skylarks and Bushlarks and Black-bellied Finchlarks and

Pipits. I have had some experience of birds feigning injury when their nests were in danger, but I had never seen it on so large scale as on this occasion. On all sides Pratincoles were dragging themselves along the ground on their wings as if they were in the last throes of death, but if you stooped to pick one up, away it flew laughing at you and quite certain that you would not find its nest. But there were so many of them that we could not help stumbling on a few.

This technique of drawing an intruder away from its nest varies with different birds. The Kentish Plover, for example, adopted a different one. As we went along in the Landrover we could see a Kentish Plover suddenly get up and walk away unhurriedly as if completely absorbed in some trifle or other. But Major Phillips knew a trick worth two of that. He would reverse the Landrover a little distance and we would focus our glasses on the bird and wait. After a time she would grow impatient and return to her nest, whereupon we would drive up and investigate. The Red-wattled Lapwing had yet a different technique. He would fly round us in circles uttering an angry *Did-be-do-it* and sometimes even attempt to attack. One would be lucky if one found a lapwing's nest. The eggs are laid on the bare ground in a hollow made probably by the hoof of a buffalo, but the colouration of the eggs is such that it is impossible to distinguish them from the stones around.

It was here also that there occurred that amusing incident described by Crowe in his book *Diversions of a Diplomat in Ceylon*. We came on a Red-wattled Lapwing sitting on a nest and naturally the lapwing flew away when we arrived. But Major Phillips when he examined the eggs was positive that they were eggs not of the Red-wattled Lapwing, but of the Kentish Plover. We marked the place with a stick and went on. Coming back we visited the nest again and there, sure enough, was a Kentish Plover sitting on the eggs. Crowe describes that lapwing as a paid baby sitter.

It always gives me a thrill to come across, for the first time, a bird I know from books, but

have never seen. I still remember the day on which Rev. S. K. Bunker introduced me to my first Oystercatcher. We were birding at Karainagar by the long bridge that spans the road from Jaffna to Kayts. Suddenly he nudged me and said "There's your Oystercatcher." I looked and there feeding in the lagoon were two of them. The Oystercatcher is a rare bird in Ceylon. According to Wait it is a "rare and occasional visitor during the north-east monsoon to the coast from Jaffna to Puttalam." But I have seen it since and the Rev. Bunker had seen it before, so it could not be so very occasional.

I saw some more rare birds on that occasion. On a sandbank a short distance from the shore was a flock of Black-headed Gulls. The Black-headed Gull—I quote Wait again—is "an occasional storm-driven visitor during the north-east monsoon." But Wait does not seem quite up to date in these matters. The Black-headed Gull can be seen almost every year off the coast of Jaffna. The Terek Sandpiper was another rare bird I saw—a little Sandpiper with upcurved beak and mincing steps.

That was a memorable evening. Out in the lagoon were Curlews feeding on the numerous crabs that are found there. We heard the soft and musical call of the Whimbrel as it flew past. Numbers of Terns kept circling overhead and I counted five varieties—the Caspian Tern distinguished by its large size and blood red bill, the Larger Crested Tern, the Gull-billed Tern, the Whiskered Tern and the Little Tern. These birds are difficult to distinguish one from the other and the most distinctive feature about them is the colour of their bills. On all sides were Waders, Wood Sandpipers, Kentish Plovers, Ringed Plovers and Sand Plovers; Little Stints, Curlew Stints and Temmick's Stints; Gray and Golden Plovers. And I saw one solitary Turnstone.

There are other red letter days in my bird-watching life. I shall never forget, for example, the first time I heard the song of the Shama. It was at the Maha Oya Resthouse at five o'clock in the morning. We had got out of bed early

for that express purpose. Nor shall I forget the first time I came across the nest of Loten's Sunbird. That was at Kalkudah. I was strolling along with Mr. Somanader when a little sunbird flew out of the nest. We stopped to examine it and found it was a nest of Loten's Sunbird. The nest was in a spider's web which had been spun round the leaves of a tree about four feet from ground. The bird had made a hollow in the web about one inch in diameter and there were two little pale gray eggs. I have climbed a tree at Vakaneri in search of the nest of the Rufous Woodpecker, but without success. According to Wait the nest has not yet been recorded in Ceylon, but Mr. Somanader has

found one at Vakaneri with eggs in it. The Rufous Woodpecker lays its eggs in the nest of the *Crematogaster* ants. These are vicious creatures but apparently there is some arrangement for peaceful co-existence.

I think I have said enough to explain why bird-watching can be pleasurable. And quite apart from the intrinsic pleasure of bird-watching it also takes you into many out of the way places and brings you quite a number of friends. There is a freemasonry among bird-watchers which I have found not only in this country, but abroad as well. But, above all, it is memories that count. As Virgil says *Haec olim meminisse iuvabit.*

TO A SKYLARK

*Ethereal minstrel! pilgrim of the sky!
Dost thou despise the earth where cares abound?
Or, while the wings aspire, are heart and eye
Both with thy nest upon the dewy ground?

Thy nest which thou canst drop into at will
Those quivering wings composed, that music still!*

*Leave to the nightingale her shady wood;
A privacy of glorious light is thine;

Whence thou dost pour upon the world a flood
Of harmony, with instinct more divine;
Type of the wise who soar, but never roam;
True to the kindred points of Heaven and Home.*

WILLIAM WORDSWORTH

The Southern Crow-Pheasant

By S. V. O. SOMANADER

In The Ceylon Fortnightly Review

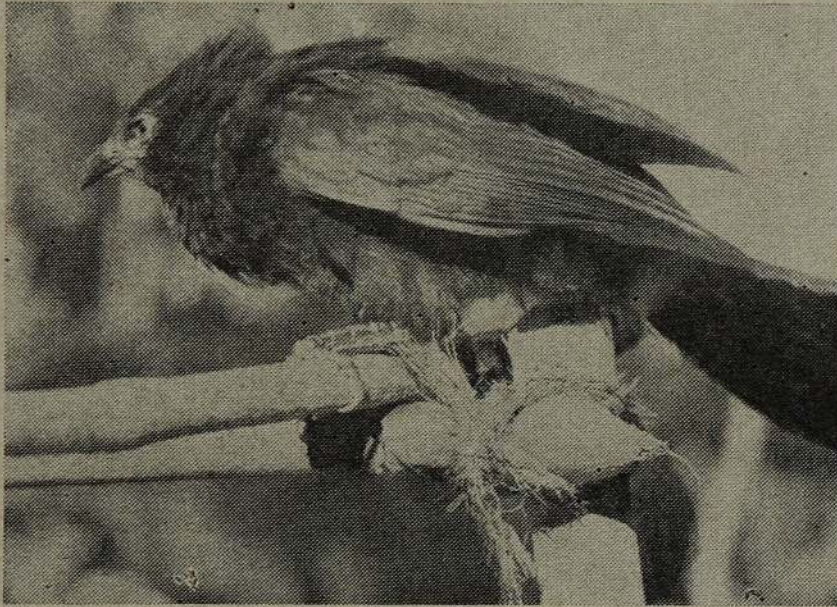
OF the three species of Crow-Pheasants found in Ceylon, the Southern Crow-Pheasant or coucal (*Centropus sinensis parroti*) is the most familiar. This is because, unlike the other two which are found in heavy jungle or high grass, this bird occurs all over the Island, being found even in our gardens. But it is not confined to Ceylon, for its distribution extends up to Peninsular India including the region around Bombay, and even northwards as far as the Ganges and the foot-hills of the Himalayas.

Called in Sinhalese "Atti-Kukullo," and in

Tamil "Senpakam," this bird cannot be mistaken, though it resembles a crow in size and shape, possessing also a black plumage with a black bill, feet and tail, and hopping about the ground in search of food; for, it has chestnut wings lined with black, and crimson eyes. And actually, though it is erroneously called the "Jungle-Crow," it is a kind of cuckoo. But, like the latter, it is not parasitic on the nest of other birds, as it builds its own home and rears its own chicks.

Although one can watch the crow-pheasant, singly or in pairs, slipping through

the bushes or stalking among the thick undergrowth, one can see it feeding on the ground too, making a meal of harmful insects, snails and even small reptiles. True, some people call the bird "the villain of the garden", because it sometimes robs the eggs and young of small birds. But it does more good than harm, for it rids our flower-beds and vegetable gardens of caterpillars, grasshoppers, snails, scorpions, mice, beetles and other pests which are regarded as harmful.



S. V. O. Somanader

Brooding Crow-Pheasant

Though the flight of the crow-pheasant is slow and heavy, it can run with considerable speed. And what a noise it makes, especially during breeding time! One can hear, from a long way off, its loud, resounding call of "Kook! Kook! Kook! Kook!", which is often promptly replied to (as I have often observed during very early mornings) but its mate some distance away. The bird utters other notes too, for example, a peculiar "creaking skirl" when nesting, or "harsh croaks and gurgling chuckles". Sometimes, when disturbed, it has a scold-note amounting to an "explosive 'k'wiss".

The nest of this bird is a large, untidy, globular structure composed of twigs and leaves, raised about ten to fifteen feet from the ground, and placed in a densely-foliaged tree or a thick bush, if not in a bamboo clump, or in the

crown of a palmyrah palm. Though the period of nesting (February to September) varies with local conditions, the majority in Ceylon breed during March-April or August-September.

Prior to the breeding, it is interesting to watch the fantastic displays of the cock-bird. Jerking and fanning its loose tail over its back, it struts about in front of its mate to attract her.

Within the nest, with the large entrance well concealed on a side or towards the top, three chalky-white eggs are found. And, when the chicks hatch out, both the parents share in the care of the young, as they did in the building of the nest and in the incubation of the eggs. When the chicks grow up to be young birds, they have an upper back with rufous bars and spots, while the lower plumage is dull-black, marked with grayish-white bars. It is only when they become big enough to look after themselves that they obey the natural instinct, and leave the nest to go about and fend for themselves.

There is a popular belief among some Ceylon village folk that the bird can set free any of its young ones if a person happens to fasten the chick to the nest with a metal chain attached to its leg. It is said that, when the chick is thus helplessly imprisoned, the parent wanders away into the jungle and procures a twig of the "Kalu-nika" plant (the whereabouts of which is known only to this bird) and applies it to the chain—which snaps, and secures the captive's release.

It is also said that, to find this precious twig among the mass of twigs and leaves of which the nest is composed, one has only to throw the structure, twig by twig, into a running stream, and watch the results carefully. It will be found that, while the other twigs will sail downstream with the current, this particular twig will float upstream against it. And, once this wondrous twig is procured, it is regarded as a valuable possession. For, when applied, it will not only break the strongest metal, but will even disintegrate the flames of fire. Some people even think that, when the twig is eaten, it has the magical property of rejuvenating the old!

OUT OF THE CRADLE ENDLESSLY ROCKING

I, chanter of pains and joys,
Heard a reminiscence sing.
Once, when the snows had melted—
When the lilac scent was in the air,
In some briars, two guests from Alabama—
Two together, and their nest, and four
Light green eggs, spotted with brown,
And every day the he-bird, to and fro,
Near at hand, and every day the she-bird
Crouched on her nest, silent, with bright eyes.
And every day I, a curious boy,
Never too close, never disturbing them,
Cautiously peering, absorbing, translating.

“ Shine ! shine ! shine !
Pour down your warmth, great Sun !
While we bask, we two together.
Winds blow South, or winds blow North,
Day come white, or night come black,
Singing all the time
While we two keep together.”

Till of a sudden,
May-be killed unknown to her mate,
One forenoon the she-bird crouched not on the nest,
Nor returned that afternoon nor the next,
Nor ever appeared again.

And thenceforward, all Summer, in the sound of
the Sea
And at night, under the full of the moon,
Or flitting from briar to briar by day,
I saw, I heard at intervals, the remaining one,
the he-bird,
The solitary guest from Alabama.

“ Blow ! blow ! blow !
Along Paumanok's shore !
I wait and I wait, till you blow my mate to me.”

All night long, on the prong of a moss-scalloped
stake,
Sat the lone singer, wonderful, causing tears.
He called on his mate ;
I listened long and long.

“ Loud ! loud ! loud !
Loud I call to my love
Surely you must know who is here, is here ;
You must know who I am, my love.

“ I murmur, murmur on !
But my love, no more, no more with me !
We two together no more.”

The sea lisped to me the low and delicious word
‘ Death’,
And laving me softly all over,
Death, Death, Death.

Which I do not forget,
But fuse the song that he sang to me
In the moonlight on the Paumanok's grey beach
With the thousand responsive songs
Awaked from that hour ;
The word of the sweetest song, and all songs,
Which, creeping to my feet,
The sea whispered to me.

Walt Whitman

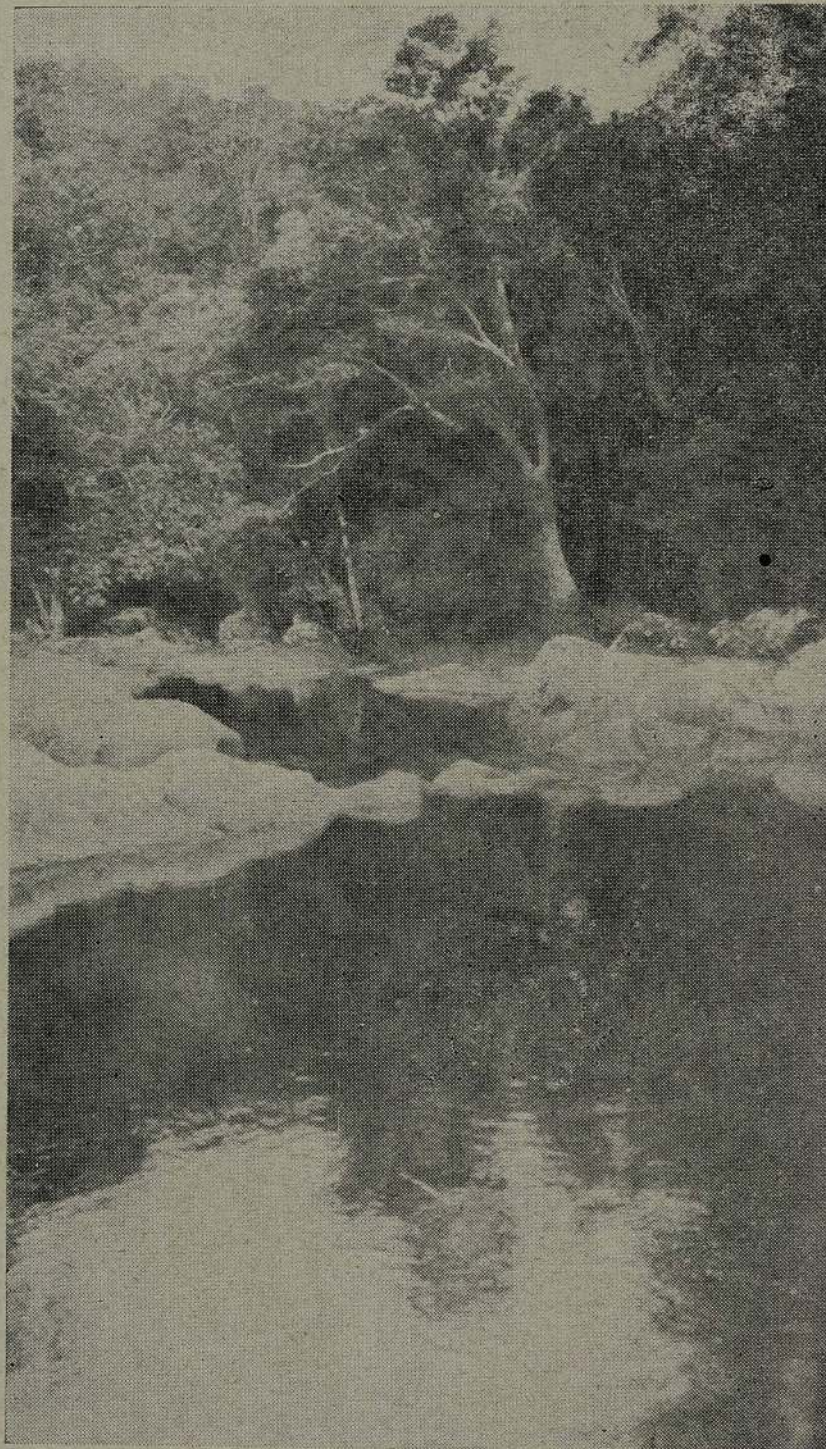
Mid and Low-Country River Fishing

By PHILIP BENHAM

From *Trout Fishing in Ceylon, Ceylon Fishing Club, 1960*

WHILE the emphasis is on Trout fishing, anglers should not despise the sport to be had in mid and low-country rivers with the fly rod or bait casting outfit.

It is true many of these rivers have been ruined by continuous dynamiting but here and there, at the correct season of the year, sport can be had in lovely jungle surroundings with



A rocky gorge where Mahseer congregate when the water is low

Still deep pools—haunts of Walliya and river Lula

Mahseer, *Waliya*, river *Lula*, *Tank Lula* and *Gouramie*, all free gratis and for nothing!

Of all the fresh water fish, *Mahseer* are the most difficult to catch and therefore the most prized fish when caught. Many's the time I have fished for mahseer when conditions have been perfect, water clearing and returning to normal level, only to find that fish are not on the take. But ever so often there comes a day when conditions, as the fish want them, are just right, and then all the blank days are forgotten.

One such day occurred early in 1956 when I was fishing a small mid-country stream with fly rod spoon. I had fished half a mile of good water without moving a fish, when I came to the head of a long pool and noticed wild figs falling into a quiet backwater from an overhanging tree and as they touched the surface there was swirl. I crept down keeping well out of sight, and cast my spoon into the backwater and in a split second it was taken by a Mahseer. This fish broke the hook at the shank, so after an interval I put on a plain hook and baited up with the wild fig and had an hour's grand sport landing half a dozen fish weighing twelve pounds and losing several more.

In the bigger river one normally uses the various forms of plugs fished as deep as possible, and also gold and silver spoons of anything up to three inches in length. Generally speaking, mahseer only take in clear water, and unless one can see a two-inch silver spoon in 2-3 feet of water, conditions are not conducive to good sport.

Mahseer in Ceylon run small compared to India, and fish of 8-14 pounds are considered good here. The record mahseer taken on a bait casting outfit, that I know of, are two fish of $17\frac{3}{4}$ lbs. each.

I have yet to find the secret of cooking mahseer to make them into a tasty dish, but secret there must be, as that grand sportsman, the late Jim Corbett, writes of catching a mahseer for lunch, and no second class dish would have met with his approval.

The *Waliya*, or fresh water shark, is a lover

of deep quiet water, and on occasions big catches of them can be made in the larger rivers during the dry weather, always providing they have not been dynamited. Some years ago a friend and I caught 253 lbs. waliya on spoons in three days' fishing in the 'Teckam' at Periyanalam Kollam during the Madu Festival, and our ghillie to whom we gave most of the fish, sold them to the pilgrims at a rupee per pound, as well as getting paid for coming out and carrying our tackle. Be careful how you unhook one of these fish, their enormous mouths are full of needle sharp teeth, and it is advisable to cut out the hooks with a long bladed knife, so keeping your hands well away from their mouths.

Waliya are the only fresh water fish that it is easy to gaff, as it has no scales on its body, and they are moderately good eating. They seem to come on the feed at set hours, between 10 and 11 o'clock in the morning and again between five and six o'clock in the evening. There is some very good waliya fishing in the river below the Gal Oya reservoir, and there must be fish up to 30 lbs. in some of the rivers and tanks. The best I know taken on bait casting outfit was 19 lbs. in the "Teckam" or dam mentioned above.

The distribution of the *River Lula* appears to be confined to the Mahaveli Ganga and its tributaries below the Victoria Falls some 10-15 miles below Kandy.

All lula have to come up to surface to take in air periodically, and if you want to find out if a river lula inhabits a pool, sit down quietly and watch any quiet back water, and in time, if there is a lula there you will hear him come up and take in a mouthful of air. Lula have very hard bony mouths and I have found a very sharp single-hooked spoon the best lure, but one must drive the hook home, by striking very hard. Except in the evening when they come out to feed, these fish lie in deep back waters right under the banks, or fallen trees, and it tests one's casting ability to the utmost to get a spoon, to

them. When a river lula starts to follow your bait he expels air and a stream of bubbles rise to the surface. The area of the bubbles is a good indication of the size of the fish. One little river that I know of, has yielded over 600 lbs. of river lula to two rods only, in the past 18 years.

I have never heard of river lula growing to more than eight pounds in weight.

During the breeding season the parents jealously guard their shoal of young and will attack anything thrown into the water near the fry, very often to their undoing and the fisherman's gain, as they are really excellent eating.

Good sport can sometimes be had with the ordinary *Tank Lula* below tank spills, or in slow running streams that lead into the tanks, and they too are good eating.

Originally *Gouramie* were confined to the Mahaveli Ganga and its many tributaries, but in recent years I believe the Government Fisheries Department have stocked a number of rivers and tanks with these queer-looking fish. *Gouramie* are essentially vegetable feeders, and they are most generally caught by bottom fishing with the wild fig, and several other kinds of jungle fruits.

One of their characteristics is to bask just below the surface of slow running water and to suck in food on the surface, they also make a peculiar splashing rise.

I believe they could be caught with a big fuzzy fly fished dry. Without any doubt *gouramie* are the best eating of our fresh water fish, and they are easily reared in ponds up to an elevation of 3,000 feet.

In recent years the Government Fisheries Department have imported *Black Bass* and *Talapia* and if only these newcomers and our indigenous fresh water fish, could be protected

from dynamite and poisoning, the prospects of some excellent fishing would be assured in Mid and Low-country rivers.



An 8½ lb. Mahseer on left, 9½ lb. Waliya on right

Beche-De-Mer Fishing

By J. F. JEGARAJASINGHAM
In Times

IT is, comforting to note that a sea product is increasingly figuring in our list of exports. And this sea product, is none other than the seemingly worthless sea slug Beche-de-mer or Trepang, and locally referred to by the contemptuous name of "Kaddal-Addai."

The Encyclopaedia Britannica describes Beche-de-mer as consisting of several species of echinoderms and as belonging to the genus *Holothurai*. It also mentions it as being an important food luxury among the Chinese, Japanese and other Eastern peoples connected with the production of which a very considerable commerce exists in the Eastern Archipelago, the coasts of New Guinea and, generally, the coral reefs of the Pacific.

In Ceylon, beche-de-mer has been associated with the lagoons of the Jaffna, Batticaloa and Puttalam Districts. According to statistics maintained by the Fisheries Department, we have been exporting during the past decade an average of 40 tons of this sea-slug every year. The largest consignment up to date was in 1948 when 67 tons of beche-der-mer valued at Rs. 105,557 was exported to Singapore, incidentally, our sole customer. Nevertheless, last year's total exports amounting to 60 tons fetched the highest value up to date Rs. 113,073.

Prior to 1952, this trade was entirely in the hands of private dealers who raked fortunes by exploiting the poor fishermen engaged in this industry. Up to this time, the beche-de-mer fishermen were almost exclusively from the fishing hamlet of Navanturai, two miles, from Jaffna.

Fortunately for the fishermen of Navanturai, their plight was considered with sympathy by the Fisheries Department, on the one hand, and the Department of Co-operation on the other. The result was the promulgation of an Administrative Act in 1952, whereby beche-de-mer could be exported only under special licence. In



Beche-de-mer or Trepang

1955, a further Act was passed restricting the issue of export licences only to registered co-operative societies. This thoughtful gesture on the part of the Government has had salutary effects on this hitherto neglected industry.

According to a Fisheries Department spokesman, as many as 3,000 to 4,000 of our fishermen and their families are directly dependent, for their livelihood on the catching and curing of this cucumber-like sea-slug. Navanturai, the

original home of this industry is today a thriving hamlet with two well established beche-de-mer societies jointly counting a membership of nearly a hundred enthusiastic co-operators. Each consignment brings the societies something like Rs. 30,000 to Rs. 40,000, thanks to the Ceylon Co-operative Fish Sales Union of Colombo, which now acts as a sales agent to all the beche-de-mer societies in the Island.

The success of the Navanturai beche-de-mer societies has prompted fishermen from places as far separated as Mannar and Batticaloa, not to mention those from the Islands of Kayts, Nainativu and Pungudutivu, to rally round the co-operative banner in a bid to earn a living income from a product that promises to be one of the most profitable exportable commodities of the Island.

In the northern archipelago, the beche-de-mer fishing season is confined to two distinct periods in the year. The first stretches from January to April and the second, from August to October. Not that beche-de-mer disappears during the remaining months. It is simply the fact that visibility becomes poor when the sea is ruffled by the monsoon winds. To spot the slugs which lie motionless on the sea-bed, the water should be crystal clear.

Beche-de-mer occurs at different depths. In knee-deep water, it is picked by hand. In deeper waters, it is either harpooned or dived for, as around Nainativu. Deep water slugs are generally the best obtainable, both in quality as well as size.

Before curing, the live slugs may range from five inches to a foot in length and from three to five inches in diameter. After curing, however, they shrink almost by half.

Though the catching of beche-de-mer is quite a simple operation it is not so with curing which calls for expert handling and not a little labour. As soon as the slugs are collected, they are boiled in a cauldron of salt water for about half an hour. After this, they are buried on the beach and dug up not before at least twelve hours have elapsed. Now starts a thorough washing

up accompanied by trampling to remove "teats" and other external impurities. Once this process is over, the slugs are boiled a second time, after which, they are spread out on the beach to dry in the sun for about three days. The final sorting out into four grades is not done until they are boiled and dried a third time. At no stage of the curing process is fresh water employed as it is considered to be "ruinous" to the finished product. Once the slugs have dried thoroughly they are packed in gunnies at 1956 lbs. to a bag.



Beche-de-mer harpooning

The fishermen receive 50% of the value of the slugs on delivery to their respective societies. They get the balance when the Union at Colombo realises the entire cost from the importer from Singapore.

Notwithstanding the success so far achieved by the beche-de-mer societies, there is yet a long way to go. In the first place is the quality of the product itself. There is reason to believe that with better curing techniques, a product of better

quality, and consequently, of higher prices can be obtained.

At present, the Fish Sales Union of Colombo has contact only with one Singapore dealer. There is scope for extending the market for beche-der-mer given greater effort on the part of the Fisheries Department. It would not be a bad idea, for instance, to send an experienced

officer abroad to make a study of markets, particularly in the Far East.

There is a lot to be done by way of popularising this valuable sea food among our own people. Beche-de-mer is said to contain a very high percentage of assimilable protein, sadly lacking in our diet.

Spear-fishing and Fish Extermination

By NORMAN LEWIS
In Oryx

FISH inhabiting shallow coastal waters in all accessible parts of the world are at this moment in the process of being exterminated, through the mass invasion of these waters by spear-fishermen. On the Mediterranean shores of France and Spain, and all round the coast line of Italy the process is almost complete, so far as several species of fish are concerned, and we learn from the magazines of spear-fishing enthusiasts, of new centres of their sport being continually established on the more remote coasts of the Adriatic, of Greece and of North Africa.

In a recently published book on spear-fishing, the information was given that over 10,000 spearguns had been sold in this country alone. This is only a tiny fraction of the number of these guns sold in countries such as France, Spain, Italy and the U.S.A., where this sport first developed. Originally spearguns were powered by elastic bands, which gave them an under-water range of only a few feet, and considerable practice and skill was called for on the part of the hunter. Elastic bands, alas, were soon followed by powerful steel springs, and then by weapons operated by compressed air and by carbon dioxide. The latter type of gun, in almost universal employment in the Western Hemisphere, is a lethal weapon indeed; its killing range extends to about thirty feet and is often augmented by an explosive spearhead.

No fish, however powerful, is a proof against this latest production in the under-water armoury—in fact, the bigger the fish, the greater the target area it offers. Even the redoubtable shark comes off worst when attacked in this way, and the hunter does not even risk losing his gun in the frantic attempts of his prey to escape; for the harpoon goes free, attached to a floating buoy and the struggles of the largest fish are soon exhausted. Already these methods have depleted the waters of such resorts as Jamaica and the Bahamas, and American spear-fishing enthusiasts are spreading rapidly into the lesser Caribbean islands, and down the coasts of Mexico and Brazil. Hordes of native imitators, encouraged by the American's example are springing up everywhere.

The sport is an extremely easy one in which to reach a fair proficiency, and so long as virgin territory can be found, the rewards are very tempting. *The Skin-Diver* a U.S. journal devoted to spear-fishing, reports instances where under-water fish-poachers off the Florida coast have taken 1,000 pounds weight in fish in a night. Fish, when encountered in their natural surroundings, are in most cases tragically tame, and even curious. Far from seeking to escape from the spear-fisherman, they will often approach to within a few feet of the harpoon, or like the tarpon, actually follow him about; so that while any fish are present they can be

slaughtered as fast as the hunter can reload his gun.

These shallow-water fish appear to be irreplaceable—or, at any rate, replaceable only over a very long period. In Europe the principal targets of spear-fisherman have been such rock-inhabiting fish as the *merou* (Mediterranean sea-perch), the *sargue* (bream), and *corb* (croaker or drum fish). These beautiful species seem to live out their lives in certain caverns or rocky labyrinths, to which the spear-fisherman has only to track them down to despatch them at his leisure. It is precisely these species, which due to their feeding habits have largely escaped the hook or net of the professional fishermen, that might have provided a valuable study for scientifically-minded observers of the future; but there it is, they have been virtually exterminated, and only the unshootable and relatively insignificant species remain. Spear-fishermen I have known in Spain, who used to take two or three merous weighing up to fifty pounds each on every expedition, now go a whole season

without even glimpsing such a fish. To give an example of the depredations for which one man alone can be responsible, the champion spear-fisherman of Iviza in the Balearic Islands—a young man of twenty-four—is proudly claimed by his native villagers to have practically annihilated the large fish in the island waters in a matter of ten years. A point to remember is that for every fish killed outright, at least two injured fish succeed in escaping. These often survive for days, as I have observed myself when swimming underwater, sometimes bearing upon their bodies the most dreadful wounds.

There seems to be a most urgent need for legislation in this matter. *Already most countries have made it illegal to hunt with aqualungs*; but this is not enough, for the thousands of holiday spear-fishermen who throng to the shallows of the warm seas every summer, kill or wound innumerable fish without doing more than splash about on the surface. *Either spear-fishing must be made illegal, or certain coastal areas must forthwith be designated as sanctuaries.* Speed is vital.

UNDER WATER TOURISM

By ANTHONY BUXTON
In Daily News

WITH skindiving the fastest growing sport in the world, there is unlimited scope for a country which possesses natural underwater splendour. I have dived in numerous parts of the world and nothing can surpass the beauties of Ceylon's fabulous coral reefs and underwater scenery. Even where there are reefs as beautiful, they are so inaccessible that one has to make many cumbersome miles of travel by car, jeep and boat to reach them.

Every country has ruins, most have mountains and beautiful cities, but few have palm fringed beaches, golden sands, warm clear water and fabulous underwater scenery. The weary traveller of today wants to get away from cities, people and often the cold. One of the greatest setbacks of the past was lack of understanding by

the Tourist Bureau that one of the main attractions are our beaches and the sea. Too often a tourist was sent on a conducted tour around the island, when he was perhaps longing for the coolness of the sea.

There has been ample proof of this in the number of tourists who, after having visited Hikkaduwa, have cancelled the rest of their guided tour and spent the rest of their stay on the beach. Living in Ceylon one can easily be spoilt by having so much beach, sun and sea, but the tourist from abroad yearns for these luxuries. How often have I been nauseated when I have heard, as I do so often, my friends persuading a tourist to go up to Nuwara Eliya. The visitor who goes, is usually disappointed, he has probably travelled countless miles to get

away from the cold and the type of scenery Nuwara Eliya has to offer. This place is a tourist resort, for those of us who live in Ceylon, and not for visitors from colder climates.

Ceylon was one of the first countries in the world to make something of underwater tourism and the Tourist Bureau purchased a boat with a glass bottom. This boat conducted thousands of people on tours around the beautiful reefs of Hikkaduwa. As expected it has proved its popularity, by the number of visitors to the resthouse.

The then Minister in charge of Tourism, Mr. R. G. Senanayake, who himself was a very keen skindiver was not slow to see the infinite possibilities of this type of tourism. He promptly ordered a 24-room modern resthouse to be built at Hikkaduwa on the edge of the reef. Part of it is more or less complete and it is bound to be one of the finest Government-run resthouses in the Island.

The old resthouse flourished throughout last season with most of its rooms fully booked months in advance and visitors flocked from abroad and at home. The resthouse had only five rooms, but in 1959 it had nearly 25,000 visitors and had a turnover of well over a lakh of rupees. The resthouses, or hotel as it will probably be called will provide the ultimate in luxury and if properly maintained will attract visitors from all over the globe.

One of the greatest faults tourism has had in the past is the lack of facilities provided at resthouses. After two or three days the visitors are bored. At Hikkaduwa it was planned to give them plenty to do and masks, swimfins, viewing, floating mattresses were always on hire.

Scindiving is seasonal on our coasts and Hikkaduwa, situated only 60 miles south of Colombo, is struck by the full force of the South-West Monsoon from May to October. However for the tourists from abroad who wish to see our underwater sights Trincomalee provides the answer. Because during the South-West Monsoon when visitors cannot go to Hikkaduwa they have Trincomalee with clear calm waters and beautiful

beaches. Here "The Hall" high up on Fort Frederick with a stupendous view of the sea and a private beach below, is now under construction and can become a resthouse which will surpass anything—what with its beautiful surroundings and the tame spotted deer roaming close by.

The situation of the building is reminiscent of the Mediterranean with a steep slope of rock, down to the sea and hanging bougainvillea. A rock garden stretches down to the other buildings which were proposed as additional resthouses. Those who have seen this place will most probably agree that this spot, as yet unknown, has to be seen to be believed and should rank as the most popular resthouse with its bracing dry climate and always calm seas. Trincomalee has infinite possibilities for underwater tourism. But boat and equipment must be available to tourists. They cannot be expected to bring them along.

Together with skindiving goes the sport of water ski-ing. We see it often advertised by the Indian State Tourist Bureau in our own newspapers. We too must offer this sport on our tanks, lakes and lagoons. Not only will the Government coffers swell but the tourists will be tempted to stay longer and spend more money.

Ceylon is blessed by being perhaps one of the most beautiful countries in the world, both above the water and below it. We must open out and show people something new by showing them our underwater scenery. It took a lot of hard work, but the dream is at last becoming a reality. There was much criticism from arm-chair Civil Servants who take ages to realise the value of a good thing. But in spite of all these obstacles the world is beginning to talk of the far-off coral wonderland of Ceylon.

And if it is followed up with even a little of the enthusiasm that has been behind the project in the past, Ceylon can become almost the number one tourist resort in the world because the land on earth is known and explored—travellers are reaching out to the unknown and the unexplored. Their answer is the Sea!

HUNTING for fish underwater is a new and exciting sport, not one which everyone, even a good swimmer can indulge in. But it is *not* a heroic, dangerous and exclusive feat to take a fish underwater with a speargun. Nor should we encourage the senseless slaughter of fish of all species by tourist or residents in order to foster the sport of skindiving. Skindiving can involve mere watching of fishes and corals, collecting live animals, shells and seaweeds, hunting for wrecks and souvenirs, underwater photography and archaeology.

Spearfishing is just one aspect of underwater sport and if allowed to become too popular, can prove disastrous not only to tourism and the sport as a whole, but also to the economy of the country. The sad old story of mass-murder underwater has made the Mediterranean coast of France and Italy one of the world's best-known submarine deserts. Spain will soon be like this, then Greece, Yugoslavia, Algeria.

There is every chance of this happening in Ceylon if indiscriminate spearfishing is not checked and controlled. A single Club is fighting hard to keep its diving members sportsmen and not vandals. But they are in sore need of suitable legislation which would control diving

as a sport, and in even greater need of at least one marine Sanctuary, a Ruhunu National Park of the Sea, which would preserve our marine fauna from everyone.

The Hikkaduwa Sanctuary has been anything but a success. Politics and petty greed have combined to make a complete fiasco of the entire project. Although a good many skindivers have refrained from spearfishing and collecting on the demarcated area, a few have done so surreptitiously with spectacular (but shameful) results. Local professional fishermen, spurred on by political agitators, have openly over-fished and ruined a good portion of the coral viewing area in defiance of a Minister whose good intention it was to start the Sanctuary.

This will never do! Unless we co-operate and act as one in this aspect of conservation, we will soon be in a less enviable position than Japan or France, whose shores are virtually denuded of marine life for food, apart from the scenic aspect.

A sane tourist-development policy centering round underwater sport is anything but an expensive one. It is firmness, hard work, enterprise and co-operation that will do the trick of making Ceylon the leading pleasure resort for lovers of the sea in the East.

Pearl Oyster Fishing in Ceylon

By KENNETH J. SOMANADER
In Air Ceylon Review—May, 1960

PEARL oyster fishing has been resumed in Ceylon after some 32 years. Inspections held in Ceylon over the past few years revealed that the pearl oysters were sufficiently mature and present in proportions to warrant a fishery, and so two pearl fisheries have already been held in the last three years. The last fishery, held in 1958, brought in a revenue of over four lakhs of rupees to the Government, and (like the one held this year) it was unique in that the oysters were obtained solely by mechanical dredging

of the pearl banks in the Gulf of Mannar, off the north-western coast of Ceylon.

In former years, the fishery depended entirely on divers and on (comparatively speaking) antiquated fishing boats. These boats were of different types and came from Mannar, Jaffna and Colombo (in Ceylon); and from Kilakkarai, Tuticorin and Pamban (in South India). The boats, about three hundred or more, were marked with red and white numbers, the reds and whites going out on alternate days.

Pearl fishing is usually conducted in Ceylon for about 40 days during February and March, when the Mannar coast is said to enjoy real "pearl fishery weather." The sea is calm, with a light wind in the mornings from the land, and a brisker one at noon from the sea. These winds helped to take the boats out at midnight and to bring them back at noon.

During the time of the fishery, around 9 p.m. each day, a gun was fired, followed by the beat of tom-tom. These served as a signal for the operation to begin, and one heard at once the sound of tackle and sails being hoisted, not to mention the shouts of tindals and divers. It was soon midnight, the preparations were over, and then one heard the swish of boats taking to the water—they were off! The boats left at midnight in order to be at the oyster paars by dawn, and early morning one saw the fleet hanging like a cloud in the horizon, their sails of all shapes and sizes silhouetted against the rising sun.

Each boat carried a crew of ten, besides ten divers, chiefly Muslims or Tamils, who were capable of remaining for about 50 seconds at a depth of nine fathoms. Once at the site, the men fastened a stone weighing about 30 pounds to the diver, and released him along a side of the boat. The stone helped to accelerate his descent, and it was drawn up when the diver had reached the ocean-bed. The diver filled the coir basket attached to his waist with as many pearl oysters as possible; and then, on a concerted signal, the basket was rapidly hauled to the surface, the diver clinging tightly to the rope attached to it.

The boats all making for the same point at noon were a lovely sight. When the boats came ashore, policemen boarded each boat and searched for concealed pearls which the men sometimes knotted within the sail or anchor. With the "all clear" by the police, the divers scrambled out of the boats with their loads, and rushed to an enclosure where the pearl oysters were emptied. Each load was divided into three heaps, and one of these was given to the diver who sold them in the market outside his enclosure. The other two heaps were auctioned

in the evening by the Government. At the auction, merchants, referring to small printed books, valued the heaps. The bidding was often done by holding each other's hands, and making certain secret signs by pressure or otherwise, the process taking place under cover of a piece of cloth. The merchants sold the pearls by "knots" of cloth, except in the case of very valuable pearls which they sold singly.

At fishery time, about 25,000 people gathered at the pearl fishery village. Besides the Ceylon and Indian police (12 dozen men from each country), and officers from the connected government departments, naval personnel and medical men, there were thousands of visitors who invaded the fishery town which extended over an area of 240 acres. Twenty acres of an irrigation reservoir had to be fenced to ensure a supply of pure water for them all. Such was the immensity of the organisation.

Those days are gone now. Today, two fishing trawlers (the *North Star* and the *Canadian*), gifts to Ceylon by Canada under the Colombo Plan, are used. While in the days that divers were employed, each diver was able to bring up only about 400 oysters in one whole day, now two dredges working on either side of each boat can bring up about 15,000 oysters in one hour! The dredges are lowered into the water every 20 minutes.

The mature oysters coming up in the dredge are placed in gunny bags, sealed and stored in the hold of the trawlers. At the end of each day's fishing, the bags are either transported by road to Colombo and auctioned, or they are handed over to a person on the spot who has obtained the tender.

The Ceylon pearl banks are reputed to have produced some of the finest natural pearls in the world and, with the success that has been achieved by the Fisheries Department in the last two fisheries, it is expected that "Operation Pearls" will become a regular revenue-earning feature.

The photographs tell the story of present day pearl fishing.



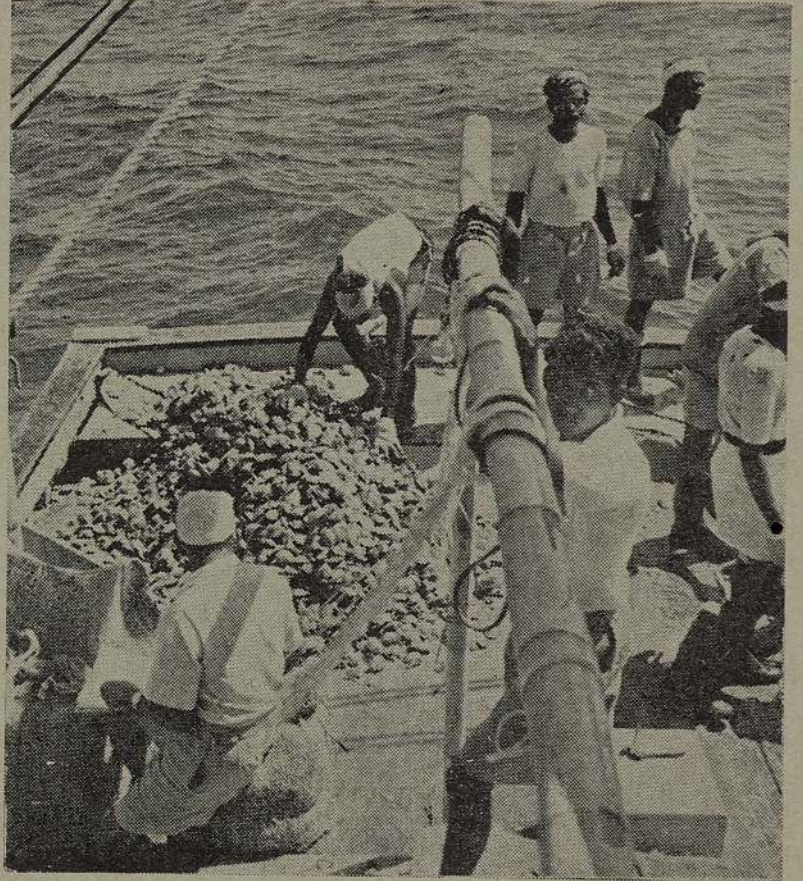
Camp



Canadian Trawler



Haul being emptied on deck



Sorting oysters into grades



Oysters being landed for auction



Auction in Colombo

DREDGING FOR PEARLS OFF MANNAR

By MANNAR CORRESPONDENT

Daily News, 19.4.60

YET another season of pearl fishing has started in Silavathurai—a world-famous pearl fishing centre. The actual pearl bank is fifteen miles south-west of Kondachchi Kuda—a small village off Silavathurai, twenty-five miles from Mannar. This year the Department of Fisheries has decided to harvest at two of these patches which they think will contain fairly matured pearl oysters.

Last year when the Department held a pearl fishery at this centre, the bags of oysters were sold by public auction. But this year the department decided to call for tenders. There were many tenderers from Ceylon as well as from India. The Department promised to supply the tenderers with 5,000 bags of pearl oysters by dredging instead of by diving as was done in former years. Each of the lots was sold at an average of ten to eleven thousand rupees and the full amount was paid in advance. The tenderers arrived at Silavathurai on March 19 and fishing operations started on March 22.

Since then almost daily two trawlers—the *North Star* and the *Canadian*—have been dredging and have succeeded in giving nearly half the number of bags promised within three weeks. The dredging was affected by occasional engine failures and bad weather. But from April 9, dredging has been regular and the industry is in full swing.

There are actually two major partners engaged in the whole industry—one, the Department of Fisheries and the other the contractors. The Government, for its part must successfully hand over 5,000 bags of oyster shells and provide all facilities such as sanitation and security. Supplying the promised number of bags by the Department does not appear to be difficult. The Department officials who are camping about half a mile from the site are doing their best to fulfil the contract. (In fact two of the officers have

decided not to take a shave until and unless they fulfil this demand).

The research Officer of the Fisheries Department, assisted by the District Inspector of Fisheries and his five sub-inspectors are engaged in this task.

Very little has been done about the sanitation facilities promised by the Government according to people managing the industry at the camp. In India all persons working in the pearl fisheries camp and the visitors to the site are inoculated against cholera a week in advance. But here it appears no proper inoculation has been done.

Drinking water brought by cart from a distance of more than half a mile costs them Rs. 3.50 a drum. Being dissatisfied with sanitation facilities, the contractors have incurred expenditure in building their own facilities.

The security of the place is maintained by two police constables.

Early morning, at six o'clock the two trawlers leave the coast of Kondachchi Kuda. There is a small crew of about five people in each trawler. These trawlers, about 45 to 50 feet in length, are equipped with radio to enable them to make contact with the shore. When the trawlers reach the bank, the dredger—a big metallic net bag with a wide mouth—is let down to the bottom, to a depth of 10 to 15 fathoms. The lower rim of the mouth is heavy and is drawn along the surface, collecting oysters, mud and stones from the surface of the rock. After running for about 100 yards the bag is lifted to the trawler and the oysters put in bags sealed and numbered. About 250 bags are collected each day. Each of these bags contain about 500 oysters and cost the contractor about Rs. 22.

By about 4.30 p.m. the trawlers return and anchor about 250 yards from the shore. Then small boats towed by launches transport the bags

to the shore, where the fisheries sub-inspectors hand them over to the contractors.

The bags of oysters piled up by manual labour remain for some days beside concrete receptacles built by contractors. There are 3 of these; each with 2 doors. After some time the bags are emptied into the receptacles and allowed to decay further. Strong smelling gases emanate from these, dangerous enough to spread diseases like cholera unless proper preventive measures are taken. But the contractors' experience in the industry for generations has enabled them to produce a system whereby the smell is reduced to much less than that of a fish market.

The opening of the oysters is done in two ways. One group of people use a machine; and the other group use their hands.

In front of the receptacle doors are semicircular tubs around which men and women sit and work. This area is not open to all visitors. The workers dip their hands into mud, maggots and water to pick the precious pearl. Searching for pearls is done in stages. The muddy water is allowed to pass through wire gauze of different

sizes. By this the possibility of every small pearl escaping is reduced. Even the sand is dried and closely examined before being thrown away. The contractors depend on the high sense of honesty of the labourers.

Out of the pearls collected so far a good part is unmaturing, according to a pearl expert from Keelakarai, India. According to him, if divers had been employed as in previous years, the probability of good pearls being picked would have been greater. These divers are given one-third of the pick. By dredging, rocks rich in Par Sippi cannot be properly harvested. A good percentage of Sori Sippi from the surface is the result of dredging.

Although the departmental work is reduced and a good flow of foreign cash is ensured by giving the pearl oysters on tenders, local people of the district who tried to chance their luck were disappointed as the contractors would not sell a single oyster to them.

Daily News

19.4.60

OYSTER HAUL POOR

THE Department of Fisheries has handed over about 3,200 bags of pearl oysters so far to the contractors.

The agreement is for 5,000 bags.

The south-west monsoon has set in and the sea is rough. In addition the two trawlers *Canadian* and *North Star* engaged in collecting oysters have gone out of order from time to time.

The catch has therefore been poor.

It is believed here that if divers were employed the output would have been higher and that they would have gathered only matured oysters leaving the young ones for the next pearl fishery.

The Government would also have made a bigger profit as it would have got 2/3 of the divers' catch as in India.

Times

3.5.60

Ceylon Snakes

ONLY FIVE OF 64 SPECIES CAN DEAL DEATH

By Dr. C. PONNAMBALAM
Deputy Director of Health

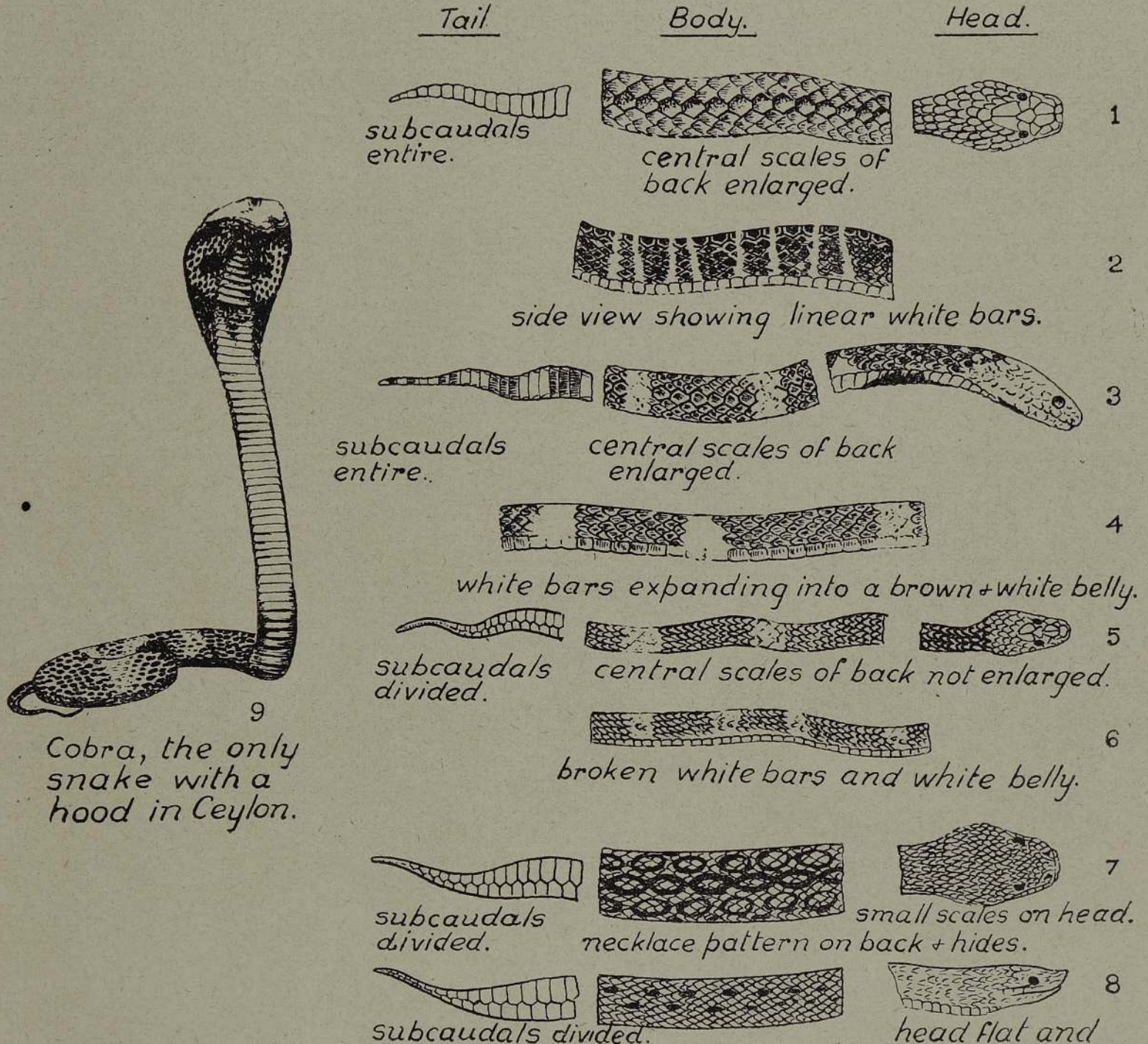
ABOUT 300 people in Ceylon die annually of snake-bite, according to figures of the Registrar-General. Of these deaths, only about

five are recorded in government hospitals where nearly 150 cases of snake-bite are treated annually.

This reported toll of the fang cannot fail to excite public interest in snakes and the effects of their bite.

A great deal of misconception prevails in most countries regarding snakes generally, and parti-

cularly about the lethal effects of their bite on men. In Ceylon, although about 300 deaths from snake-bite are reported annually, the actual number of deaths definitely proved to have been caused by poisonous snakes is difficult to deter-



9
Cobra, the only snake with a hood in Ceylon.

- | | |
|------------------|----------------------|
| 1 Indian Krait. | |
| 2. " " | |
| 3. Ceylon Krait. | |
| 4. " " | |
| 5. Wolfsnake. | |
| | 6. Wolfsnake. |
| | 7. Russel's Viper. |
| | 8. Hump-nosed Viper. |
| | 9. Cobra. |

T.D.de A.

mine. It has been computed by expert investigators in India in this field that about 50 per cent. of the deaths resulting from snake-bite could be caused purely by fright and shock and not from the poison of the bite.

Ceylon, like the neighbouring mainland, has a large representative group of snakes of all species and therefore offers greater scope for study than many other countries. In New Zealand there are no snakes at all; Ireland and Madagascar have no poisonous snakes, while in Australia there are no vipers. In Africa pit-vipers are not known to exist, while in America there are no pitless vipers. In Ceylon we have all these species well represented.

Here we have a lengthy array of 64 species of land snakes, of which only five carry the poison that is lethal to man, viz. the Cobra, *Naia naia* (Sinhalese—Naia): Russel's Viper, *Vipera russelli* (Sinhalese—Tic Polonga): Saw-scaled Viper, *Echis carinata*: Indian Krait *Bungarus caeruleus*: and Ceylon Krait, *Bungarus ceylonicus*.

In getting to know the fundamentals of snake-bite, what must be borne in mind foremost is that the mere possession of a poison gland by a snake does not make its bite lethal to man. For the bite of a snake to be lethal, two specific conditions must be fulfilled. First, the snake must be front-fanged (proteroglyphous)—a fang being a hollow or grooved tooth by means of which the poison is injected into the victim. Equally important, the content of the poison gland must be sufficient both in quantity and potency to kill a human being.

Judging by these two criteria, all snakes of Ceylon, except the five mentioned, fall into the harmless category and represent no danger to man.

In regard to the potency of the venom, the following figures indicate the capacity of the gland and the minimum lethal dose for each of the four main killer-types in the island:

	Capacity of Gland	Minimum lethal Dose
Cobra . . .	200 mgm.	15 mgm.
Russell's Viper . . .	80 mgm.	40 mgm.

	Capacity of Gland	Minimum lethal Dose
Saw-scaled Viper ...	12 mgm.	5 mgm.
Kraits	5 mgm.	1 mgm.

It is not uncommon in this country to hear and read of deaths due to bites of snakes which have scientifically been proved to be non-poisonous to man. In such cases there are only two possibilities—either the snake has been mis-identified, or the death has resulted from mental shock.

For this reason, it is vitally necessary for those interested in this subject, particularly medical men, to be able to identify at least the poisonous snakes of Ceylon. There are charts available which make identification quite easy.

Often, one is misled by mere colour and markings which are undependable and quite often deceptive. For proper scientific identification there are absolutely infallible methods of counting scales—each type having a specific pattern and number of scales.

One has also to remember that quite a number of non-poisonous snakes bite on the slightest provocation and even inflict considerable local injury. All that is necessary in such instances is to treat the wounds with simple antiseptic and put up a clean dressing just as is done in the case of simple bites from any other animal.

One of the commonest errors of identification is in regard to the *Mapila* (catsnake) which, in spite of all evidence and experience to the contrary, is still thought by many to be very poisonous. One of this kind—Forsten's catsnake (*Nagamapila*) bears a striking resemblance to the vipers and is all too often mistaken for them. It is, however, back-fanged and its poison is very weak.

Another common belief in Ceylon centres round the Brahminy Lizard (*Mabula carinata*) which is popularly believed to be a deadly reptile whose bite brings certain death. In point of fact, however, it is one of the most harmless of all creatures known to man.

For this erroneous belief there is quite a simple reason. Being a favourite food of snakes the Brahminy Lizard is often chased by them and

seeks refuge under a mat. The pursuing snake, baulked of its prey, reacts by attacking the occupant of the bed and promptly disappears without drawing further attention. And it is the harmless lizard which is ultimately discovered under the mat and incriminated.

TREATMENT

As regards the treatment of snake bite, as far as Western Medicine knows, the only specific remedy is anti-venin. This bivalent serum, prepared by the Kasauli Pasteur Institute in India, is available in Ceylon today and is absolutely specific against the venom of the cobra and the viper; and partially efficacious against the bite of the krait. The only difficulty is that, unless administered promptly, it loses much of its efficacy. Even in the late stages of the bite it may prove life-saving if injected intra-venously in large doses.

Numerous other remedies, both for local application and for internal administration, have been tried out in many parts of the world

with varying degrees of success, but in no case have these been proved to be a specific cure.

Some years ago two scientists in India tested about 500 different indigenous remedies for snake-bite and after very carefully controlled experiments, gave the following verdict: "We may safely conclude that none of the Indian plants recommended for the treatment of snake-bite has any preventive antidotal or therapeutic effect."

In this country, one frequently hears of miraculous cures of snake-bite, through herbal remedies administered even 24 hours after the infliction of the bite. When we realise that the bite of one of the poisonous snakes mentioned in this article usually causes death within one to six hours, we cannot help reaching one conclusion. That is—in such cures—the bite was probably inflicted by a non-poisonous or feebly poisonous snake which would not have in any case caused death from its poisonous effects. Further research is necessary before such cures can be given scientific recognition.

Fossils of To-morrow

AMERICAN NATURALIST DESCRIBES HIS QUEST FOR RARE ANIMALS

By LEE MERRIAM TALBOT

In *London Times*, 7.8.56

A GREAT many species of wild animals and birds can exist with, or in spite of, man's activities. Others cannot. A disturbingly large number of these have become extinct. Many others are on the verge of extinction, and it is these "fossils of to-morrow" that are the concern of the Survival Service.

My assignment has been to survey the present status of some of the world's rarest animals, with the object not only to find out where they live and how many are left but also, where possible, to see what is causing their extermination and to try to see what can be done to conserve them.

The animals I was given as primary targets

were from the list of the world's most threatened species. They included, among others, the three *Asiatic rhinoceroses*, the *Arabian oryx*, the *Burmese brow-antlered deer*, and the *Indian lion*.

The six-month assignment took me some 42,000 miles through 30 countries of North Africa, the Middle East, and south and south-east Asia. With the co-operation of the Governments involved, I made small expeditions to the remote homes of the different animals. I used 37 different forms of field transport on these expeditions. They ranged from elephants and camels to dug-out canoes and rafts. The animals ranged from the burning, barren deserts of Arabia and North Africa to the snows of the

Himalayas and the jungle-clad islands of Indonesia.

The RHINOCEROS, in prehistoric times, was one of the most widely spread of all land animals. Today there are only five kinds left, two in Africa and three in Asia. A few centuries ago the Asiatic rhinoceros ranges covered much of south-east Asia, extending from the Khyber Pass eastwards to the Pacific Coast of Indo-China and, southward, through Java and Sumatra. At present there are only a few hundred individuals of all three species known to survive, and they are mostly confined to small, carefully protected areas.

This rapid reduction in range and numbers was, largely, caused by two factors. First was the expansion of cultivation into the home ranges of the "rhino." Secondly, and most important today, is the fantastic trade in rhino horns. There are widespread oriental beliefs that a rhino horn cup will render poison harmless; that rhino horn taken internally or externally will rejuvenate lost youth and will cure all manner of bodily or spiritual complaints; and that powdered rhino horn is the most powerful aphrodisiac. These beliefs are so strong that I saw individual merchants offer prices as high as \$2,500 for one horn. In Sumatra, one Chinese merchant was offering a new American automobile in trade for a whole rhinoceros. A high Burmese official was reported to have killed one rhino recently to obtain the blood as medicine for his wife. And in the Kingdom of Nepal a freshly killed beast is considered necessary in religious ceremonies honouring ancestors.

Smallest of the world's rhinoceroses is the *Sumatran two-horned variety*. The little fellow stands $4\frac{1}{2}$ feet at the shoulder and weighs only about a ton. The few individuals surviving are scattered through several south-east Asian countries. They exist as separated individuals or family groups, protected only by the extreme inaccessibility of their jungle-clad mountains. Slightly larger is the one-horned *Javan rhinoceros*. Only two or three dozen remain, very carefully protected by the Indonesian Government in the

Udjun Kulon reserve on the western tip of Java.

Over 14 feet long and above six feet at the shoulder, the *Great Indian Rhinoceros* is largest of the Asiatic rhinos. An unknown number still survive in a remote valley in Nepal, and three to four hundred are protected in eight small reserves in north-east India.

In the Kaziranga Reserve in Assam I was observing the rhinos from elephant back when my elephant was charged by a rather unfriendly mother rhino. She chased us for some distance through the 15-foot high elephant grass, then caught up to us and with a toss of her head opened a foot and a half long cut in the elephant's side. She did this with a long lower tooth, instead of her more obvious weapon, the horn.

The ARABIAN ORYX is a large, white desert antelope found only in Saudi Arabia. Its long horns are so straight that, seen from the side, they sometimes appear as one. Because of this the oryx is *believed to be one origin of the unicorn myth*. Because of the animal's speed and wariness, a successful oryx hunter was a celebrated man in his tribe. The belief has remained unaltered, but the hunting tools have changed. Sweeping the desert with fast cars and modern rifles and shotguns, the Arabs have depleted much of the desert wildlife. Wealthy Arab princes take periodical hunts in the desert. Over 200 gazelle a day have been run down and killed on these hunts. One oryx hunt consisted of 300 cars and trucks. In the face of this onslaught, the oryx has been virtually exterminated.

LION, like rhino, to most people means Africa. Yet, long ago, lions were found all the way from what is now Turkey eastward into India and southward into Arabia. They were so much a part of life that they appeared over 100 times in the Scriptures. Partly because of its bravery in the face of modern weapons, by the end of the nineteenth century the Asiatic lion was virtually extinct. The only real population of the lions survived on the Gujerat peninsula of north-west India. And this population was estimated at less than a dozen!

Given total protection, the original handful

of lions has increased in 50 years to between 200 and 300. Their home has been a hilly patch of teak forest and thorn scrub called the Forest of Gir. Here they lived in relative peace for some years, existing mostly on the resident wild animals. But in recent decades the forest has been used as grazing ground for startlingly large numbers of cattle and water buffalo. The damage caused by these animals' overgrazing is severe.

As a result of this and other factors, during the time that the lion population has increased so spectacularly, the forest area has decreased almost as spectacularly. From over 1,000 square miles

in extent in the late 1800's the forest has shrunk to the equivalent of an irregular patch of 16 by 30 miles. The wild animals are almost gone, so the lions must resort to domestic stock for dinner, and their kill is reported to be about 10 animals a day.

One of the first questions Mr. Nehru asked me was about the status of the lions. The Indian Government is proud to have the last survivors of the famous race, and they are seeking a way to manage the area of the Gir forest for the best interests of all concerned. The problems they face with their lions are largely parallel to those faced by wild life conservationists all over the world.

The Crocodile's Decline

By H. B. COTT

Adapted from an article in the Listener, August, 1957

ON the south bank of the Victoria Nile there is an open space of bare mud. The earth has been pressed and worn as flat as a parade-ground by crocodiles that for centuries have resorted to the place to bask in the sun and to guard their nests. At early dawn the beach is deserted, but with the coming of day the first crocodile cruises towards land. Swimming with majestic sweeps of the muscular tail, his arms and legs folded back against the body, he comes in like a great fish. After lying for a time in the shallows, with head and shoulders exposed, he laboriously heaves his half ton of weight out of the water and comes ashore. Having chosen a resting place he turns about to face the water, sweeps his tail in a half-circle, and settles his feet firmly on the mud with a resounding smack. Soon he is followed by others, until the beach is so crowded that newcomers have to climb over the bodies of their companions to find a place to rest. Here they lie and bask, their dorsal scutes gleaming in the sunlight like burnished gun-metal.

Scenes such as this were once common, but today such spectacular congregations have entirely vanished, except from the few game parks and

reserves where the reptiles enjoy government protection. Many factors have contributed to the crocodile's decline. New facilities for travel, land development, drainage of swamps, hydro-electric schemes, the spread of modern firearms, and the direct destruction of crocodiles in the supposed interests of humanity—all have had their effect. But during the last decade a new factor has drastically reduced the dwindling stock. The crocodile produces the best-known type of leather and the high prices paid for the hides have led to intensive exploitation.

Under natural conditions the monitor *Varanus niloticus* and the crocodile kept each other in check; the lizard preying upon the eggs and newly hatched young, and the adult crocodile preying upon the monitor. But present disturbance by hunters in the breeding grounds has favoured the lizard, which is quick to exploit the guardian crocodile's temporary absence from her nest. *Varanus* is now said to be on the increase and, together with the hunter, is taking its toll of the potential breeding stock. Meanwhile the professional hunters, who shoot at night with the aid of a spot-light, are relying for their profits more and more upon young croco-

diles whose skins find a ready market in London, Paris and New York.

With the crocodile's decline other, quite unforeseen, effects are beginning to be noticed. For example, in parts of Southern Rhodesia where the reptiles, formerly abundant, have now been hunted nearly out of existence, fresh-water crabs have increased and are reported to be feeding on the fry of the food-fish *Tilapia*. In southern Lake Victoria African fishermen now complain that the lungfish *Protopterus*—a favourite food of the crocodile—are on the increase and are mutilating fish in their nets.

Such changes in the pattern of nature may well serve as a warning. But hitherto we have had little precise information on the crocodile's ecology, and in particular on its relation to fisheries and to the general biological economy.

Analysis of food recovered from Rhodesian crocodiles showed that there was no simple answer to the question: What does the crocodile have for dinner? The kinds of prey and the proportions in which they are taken differ widely in different areas. There are a number of popular fallacies—such as the generally held opinion that crocodiles are voracious feeders; that their main food is fish; and that they consume enormous quantities of marketable fish-species. Field observations, and the examination of specimens from different waters, and shot at all hours of the day and night, led to the conclusion that the crocodile enjoys a leisurely life, that it requires little food, and that it troubles to take only the little that it needs. Empty stomachs are frequently encountered in crocodiles of all ages; a meal of any size is rare; and a full meal exceptional.

Young crocodiles have good reason to avoid the company of their elders—for the Nile crocodile is much addicted to cannibalism. Thus it is that the juveniles shun the open waters and basking-grounds, living instead in seclusion among the stems of papyrus or shore debris in weedy shallows. Here, for the only time in their lives, they show climbing ability, scrambling about the swamp vegetation in search of insects

and spiders upon which they subsist almost entirely during their early life. Later, other items are added to the pabulum—toads, frogs and tree-frogs, crabs and molluscs. Fish, rodents, and small birds are only occasional items on the menu at this stage. But gradually the pattern changes. Adolescents take more to the water, feeding nocturnally; and by the time they reach an age of eight or ten years, their diet is mainly fish. With further growth, fish tend to be neglected in favour of reptiles and mammals. The veterans capture a wide variety of prey—ranging from hippopotamus calves, buffalo, waterbuck and other game to waterfowl, pythons, cobras, soft-shelled turtles, monitors, and smaller individuals of their own kind.

In the Bangweulu swamps the main prey is a large gastropod mollusc. One of the largest had more than 800 of these snails in its stomach. The habits of crocodiles living in the opaque alkaline waters of Mweru Wa Ntipa, near the Belgian-Congo border, were again exceptional. These animals tended to be monophagous, feeding almost entirely upon *Clarias mossambicus*, a catfish that itself preys upon *Tilapia* which in turn is an important commercial fish. In so far as the crocodile keeps *Clarias* in check, there can be little doubt that it is beneficial.

Both in Rhodesia and Uganda the species of fish eaten are in the main themselves scavenging or predatory forms that feed upon fish, fry, or eggs. In addition, adult crocodiles include otters and the Marsh Mongoose and many fish-eating birds in their bill of fare. But more important is the part played by young crocodiles. In all areas where they have been studied, the juveniles are found to feed extensively—during the first five or six years of life—upon giant waterbugs, upon nymphs of dragonflies, carnivorous water-beetles, and fresh-water crabs. All these invertebrates feed, as larvae or adults, upon fish fry. And so the conclusion may be reached that crocodiles are not detrimental to fishery interests.

In the popular mind, crocodiles arouse feelings of fear or hatred; and officially they are still

often classified as 'vermin'. If a crocodile eats a catfish or a cobra, no one is any the wiser. But if the unfortunate victim is an ox or a man, the fact is soon widely known. Happily, human casualties are today comparatively rare. But when accidents do occur they have news value. The crocodile's misdeeds are magnified in the press, and are seized upon by the professional hunter. In Africa, crocodiles have already been exterminated from the south, and from the second cataract of the Nile northwards, and from most of Kenya. Ruthless exploitation has reduced other crocodilians throughout the tropical world until in many countries where they formerly flourished they are today almost a curiosity.

Crocodiles essentially like the modern forms existed in Cretaceous times and were contemporaries of the Dinosaurs. These only remaining survivors of the Archosaurs (or Ruling Reptiles) are thus of quite exceptional scientific interest. Their anatomy is of extreme importance in tracing the evolution of corresponding structures in the higher vertebrates, while their ecology and distribution throws much light upon the biology of their ancestors and upon former land connections. It would be a grave loss to science and posterity if these saurians—which have survived for over 100,000,000 years—were now to be sacrificed.

WILD LIFE PROTECTION SOCIETY

MINUTES OF THE HALF-YEARLY GENERAL MEETING HELD AT THE KANDY CLUB, KANDY,
18th JUNE, 1960

Over 60 members and guests were present. The following regretted their inability to attend the Meeting:—

Messrs. B. D. Fay, R. St. G. S. De Costa, S. J. Kadirgamar, J. C. Byrnell, R. S. V. Poulter, Edmund De Zilva and Miss Tamia De Zilva.

- (1) The Hony. Secretary read the notice calling the Meeting.
- (2) The Minutes of the Half-yearly General Meeting held on 25th July, 1959, were confirmed.
- (3) The President, Mr. C. E. Norris, called upon Mr. D. B. Ellepola to move the resolution:—

“This Society fully supports all the recommendations of the Committee for the protection of Wild Life as contained in their report.”

Our Heritage must be Preserved

MR. ELLEPOLA, proposing the resolution, said it was never the intention of nature that humans should live apart from wild life. He said that two years before, at the annual general meeting in Colombo, he had presented a paper on land

development and the preservation of wild life. He had furnished a wealth of statistical detail. He had pointed out that out of their land mass of 17 million acres more than 52 per cent. was under forest.

But according to the land policy of the Government, the forests were in danger. It was accepted the world over that the minimum forest expanse in a country should be 25 per cent. But the land policy of the Government was to cut down the forest and provide land for the expanding population. Unless they realized the need for the preservation of the wealth given them by nature they were facing catastrophe.

He pointed out that India had set out a definite land policy according to which wild life was recognised as an integral part of forest wealth. In fact, India had established 18 National Parks during the implementation of her first five-year plan. In their own country, without any land policy as such, the need was not felt to preserve the heritage given to them by nature.

The report had recommended the establishment of corridors to link up reserves so that animals could cross from one reserve to another

without the fear of being shot at. It detailed the needs of the wild elephants.

He added that the committee had recommended the need to educate school children to love wild life. It had studied the flaws in the present Ordinance and presented a draft of legislative measures which could make the task of the legal draughtsman easier.

He pleaded that the heritage given to them by nature be preserved. Mr. Ellepola concluding his speech said, that they must see that the assets of their country were saved for posterity.

The resolution was seconded by Mr. M. L. C. VanCuylenberg and passed unanimously.

Wild Life has Great Economic Potential

The President, MR. C. E. NORRIS, commenting on the report, said: Although I am a signatory to this report I have two criticisms to make.

First, the whole report would appear to have been built around the aesthetic values of our wild life relying nearly entirely on sentiment in an attempt to obtain its object without bringing out the fact that our wild life is a natural resource of the country possessing a considerable earning potential.

Appealing to the finer emotions of a Government or politicians in these days will bring forth as much luck as King Canute had with his waves! Such an approach is definitely unsound as our appeals will go unheard, having to yield to others with a definite economic significance. We must base our arguments on the fact that wild life is a valuable natural resource with a considerable economic potential.

Recently, I read an article in one of the local papers which stated—"Our wild life is a rich natural heritage that has to be conserved for our pleasure, recreation and posterity." Nice words but unconvincing and negative in these days when everything is considered by its financial values.

For years we have trotted out our old and willing horse sentiment, which has won many races for us but now can no longer compete against the more modern competitors so it must

be superceded. In her place we must get ourselves a new, more vigorous and convincing entry so that our colours will still be carried first past the post.

My second criticism is that the preamble verges towards the political argument of putting man's needs first; such an introduction is outmoded as the whole question resolves itself into correct usage of the land so that the most beneficial earning potential can be obtained. In so many cases incorrect land utilisation has been adopted as a political venture. This point of man's needs coming first keeps on appearing, throughout the report although in the preamble it has been shown a considerable area must remain in forest if correct utilisation of the land is to be achieved. The perfect example of the ideal is the set up in the Gal Oya Valley where land has been set aside for the economic stability of the enterprise. In Chapter 4, the Committee puts forward the questions as to whether wild life in Ceylon is worth preserving and should not the needs of wild life give way to those of man? They answer their question that in theory this should be so but in practise cannot arise owing to soil conservation and climatic reasons. It is often far better to set land aside which can be used as a conservation unit rather than cultivate it to raise mediocre crops of little or no value. Research and careful planning with full co-operation of all interests are so necessary to arrive at the correct answer to this question.

The most important recommendation to ensure permanent protection for our reserves is the setting up of a Corporation or National Trust. There must be a controlling body which holds all Reserved Areas in title and is given statutory powers, otherwise there can be no permanence of tenure. After this has been achieved it is important that the Wild Life Department is re-organised to allow for the maximum of efficiency.

Our Society must whole-heartedly agree that the services of a biologist be obtained to study the elephant in relation to other animals and food stocks so that a plan can be evolved of how

to save the elephant from the extinction to which it is fast sliding. I have made an effort to start the ground work for such a survey but the task is immense and nearly impossible to accomplish with only a limited amount of time available. A preliminary report has already been published and I have received some helpful suggestions from eminent biologists. When the Committee wrote its report it was not realised the existing Reserves were not viable units throughout the cycle of a year for elephants. This fact has only come to light consequent on the work I have been carrying out and presents a problem which can be solved by research and more research. Unfortunately in Ceylon there seems an aversion to carrying out such a research but until this is done no solution will present itself.

The increase of Yala is a most pressing need for the elephant problem ; so is the recommendation of making Baron's Cap into a group of National Reserves and Sanctuaries a most important one—it being given in compensation for the loss of Veddikachchi, Wasgomuwa and part of Wilpattu.

I am not in favour of making a large number of isolated and small Reserves unless they are proved by research to be viable units, otherwise they will be useless as a long term policy. It is far more practical to increase existing Reserves so that a greater overall contiguous area becomes inviolate. Such recommendations as making the Horton Plains into a newly classified Reserve is a good one, as this area is unique and must be left untouched as a proper use for water conservation for the rivers it feeds.

Finally we must make every effort to get the Draft Bill overhauling the present Fauna and Flora Protection Ordinance made into law. The President, concluding his speech said, if we, as a body, do not follow this report up and keep the recommendation alive, they will become forgotten and overlooked. We are the only body that can achieve this.

Under any other business, the Hony. Secretary/Treasurer, Mr. J. MANSERGH HODGSON, informed the Meeting, the Bank balance at present was Rs. 4,246.42, and he requested the members who pay their subscriptions by Bankers' Order, and have not informed their Bankers of the new rates in subscription—Rs. 15 a year—to do so at once.

He remarked that some members have not paid up their subscription for 3 or 4 years, and he mentioned that he had sent numerous reminders of their oversight, but all were fruitless. He once again urged those members concerned to settle their dues, at an early date.

The President, Mr. Norris, in closing the Meeting informed the members that Mr. Rodney Jonklaas and Mr. David L. Ebbels would be showing, an *underwater movie film*, and a *wild life film* respectively. Mr. Norris, once again thanked the President, and the Members of the Kandy Club, for the use of their premises.

The Meeting then dispersed with a vote of thanks to the chair.

J. MANSERGH HODGSON,
Hony. Secretary

Midford,
Norton Bridge.

Snips

LOCAL

Elephants and Extinction

Does Ceylon really want to keep the Elephant, one of the most valuable attractions in her wild life? The way things have been going it would appear as though she is quite indifferent to their

fate. With a horrible regularity reports appear in the Press of "another elephant shot" or, of abandoned calves being found.

So far this year four such babies have been collected, and all have died as the result of

wounds or maltreatment. Another was taken and released in Wilpattu but suffered the same fate and, yet another was found to be only a stinking carcass.

Recently, a wounded cow was found dying with a young calf also, suffering from gunshot wounds; the cow died after a prolonged period of agony and the calf mysteriously disappeared into the jungle! The question that comes to my mind is, why should these babies be found abandoned?

Elephants take extreme care over their young ones, never exposing them to any danger. It is therefore most unlikely that they would abandon a calf even under extreme stress. Facts point to these babies having been captured, probably after their mothers have been shot. The babies are then seized and brought up in the jungle until they are large enough to be sold secretly, but should the trappers feel they have been detected then they just let the baby free, without caring whether it can look after itself or not.

In 1949, an Amendment to the Fauna and Flora Protection Ordinance was passed, which allowed for persons in possession of elephants to be annually licensed, and that all sales and transfers have to be registered with a new licence being issued. This Amendment has not been enforced.

Meanwhile, the elephant continues to proceed towards extinction. I have found it hard to make people realise that something, which they have always been used to getting may not be available one day—"There have always been elephants in Ceylon so they will always be there." How I would like to think this could be true.

Existing Herds

A study made of the habitats of wild elephants by game rangers have revealed the existing of herds in the following places:—

Lahugala 62—July to October; Gonnoruwa 81—September to November; Kantalai 33—March; Deduru Oya 15—July to October; Weli Oya 35—August-September; Timbiri-

wewa 30—from August; Kumana 23; Kali Villu 29—from September; Maradanmaduwa 43—from September; Weligatta tank 14—September-October; Kirinda Oya 15—from September; Uranaya 29—from March and Weimalkema 21—from November.

Remove Elephants or We Shoot, Army Warns

The Army authorities at Fort Ostenberg, Trincomalee, have told the Department of Wild Life that if elephants in the area are not removed or prevented from coming into the Fort they may be shot.

The Army's warning is a sequel to incidents which have occurred around Fort Ostenberg and Hoods Parade grounds, where several army jeeps have been chased by elephants up to Elephant Point. Army personnel have also been chased by these elephants.

One Army officer saw an elephant standing on the parade ground and on hearing the sound of the jeep, it turned round and chased the vehicle for a considerable distance.

The game-ranger requested the officer in charge of Fort Ostenburg to see to it that roads within the Fort were cleared of bushes and undergrowth to a distance of at least 10 yards on either side.

He has requested the Warden to consider the feasibility of capturing and transporting at least one of the three elephants that have made it a habit to swim to Ostenburg from Sober Island.

He has also suggested that notices be put up warning drivers entering the area to look out for elephants.

Times

14.7.60.

Chains for Perahera Elephants

All elephants above seven feet in height taking part in the Kandy Esala Perahera, beginning on July 28th, were heavily shackled.

This is one of the precautionary measures being taken by the temple chiefs at the suggestion of Mr. A. B. S. N. Pulenayagam, Government

Agent of the Central Province, to prevent a recurrence of the tragic events which occurred during the last Esala perahera.

When the magistrate's suggestion that all the elephants which participated in the perahera be chained was discussed, Mr. Udurawana said that baby elephants were harmless and need not be chained. It was decided, however, that young elephants should have their forelegs chained to their neck.

It was also decided that the temple chiefs should check on the history of the elephants which were to be taken in the perahera and exclude those which had killed any people in the past.

Each elephant in the perahera will be accompanied by two mahouts. Before the perahera starts, the mahouts will be examined by the police to see that they have not partaken of liquor. No mahout smelling of liquor will be allowed to take part.

26.7.60.

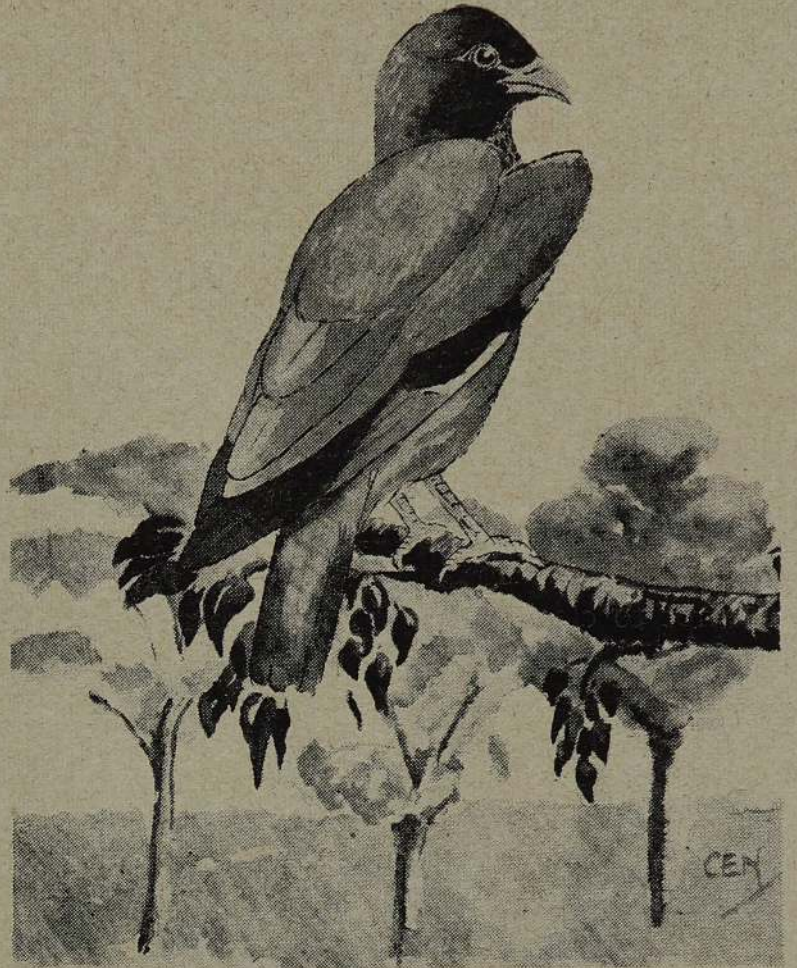
Times

The Rare Broad-billed Roller

One of the rarest birds in Ceylon is the Broad-billed Roller which evaded observation for a period of some fifty years. Its re-discovery in 1950 caused considerable interest and feeling in the press as two, reputedly nesting birds were shot, we are told, in the cause of furthering science.

Recently I received information that a pair of these Rollers were nesting, so on the first available moment, I went down in the hope of studying some of their habits at the nest. Luckily the nest was not difficult to find as it was situated in an old Woodpecker's nest hole in a *Mitregyna pravifolia* tree that was growing on the edge of a main road. The villagers no doubt considered my behaviour most strange as I spent nearly four hours sitting on a culvert, leaning against one of the guard-stones, while my wife curled herself up behind her cine camera in the shade, on the road-side grass.

The nest contained young birds, how many



Broad-billed Roller

I was not able to find out, but I definitely saw one beak poke out of the hole from time to time. As both parent birds are identical it is most difficult to differentiate the sexes. One—which I presume was the female—was very conscientious as she maintained an unceasing watch over the nest from a nearby kapok tree. Her mate took two hours off from his duties and during this time was not to be seen.

All the food taken to the nest consisted of insects caught on the wing by the parents, and in the quest for food they often displayed their fascinating roller antics from which they get their name. I noticed whenever a large beetle was caught it was knocked against the branch of a tree and killed, never taken to the nest. It was always swallowed by the parent bird.

Not far from the nest was a huge liana that spanned the road being used as a bridge by squirrels and, once, a Giant Squirrel crossed, much to the consternation of the rollers, who

attacked it in a lively manner hurrying it on its way. They took no notice of the little palm squirrels who were allowed to cross quite freely. A Brown-headed Barbet came in for a sharp rebuke when it perched on a twig very near the nest hole, leaving somewhat hurriedly no doubt with a feeling of having been hard done by!

During my stay the young were fed 31 times which worked out at a feed every $9\frac{3}{4}$ minutes. In the morning the parents were more active visiting the nest once every six minutes, but this slackened off during the mid-day period. At their visits they stayed only long enough to give the young its food. They never made any attempt to clean the nest out as so many birds meticulously do.

This has now proved, beyond doubt, that the Broad-billed Roller nests in Ceylon and I sincerely hope it will be allowed to continue to do so.

C. E. NORRIS
Times

12.5.60

Mr. Magpie Goes 'Anting'

A few days ago I watched a male Magpie Robin indulging in the strange habit of "anting." He flew down to the lawn and started picking up large black ants in his bill, which he then used to stroke the under-surface of his wing quills. While doing this he assumed some strange attitudes as he bent his head down and brought his partially-opened wing forward so that he could rub the ant on the quills with a swift downward stroke. Often he brought his tail forward as well, sometimes to such an extent that he nearly lost his balance and fell over backwards. He treated both his wings in this manner and it also appeared, as though he treated the base of his tail, but I could not be certain of this as his movements were so quick that I could hardly follow them.

After he had finished this peculiar display I went to see if I could find the ants he had used. All these had their abdomens squeezed out and in some instances nipped off; those ants that had

lost their abdomens were still alive and running around. It would appear the object of Mr. Magpies' operation was to extract the formic acid from the ants possibly to rid himself of, or to discourage, feather lice. Generally water-bathing and preening follow "anting," but this robin flew away so I could not see what he was getting in to.

"Anting" is a fascinating and, as yet, unsolved problem that is indulged in by many of the passerine birds. But it is not often witnessed among Ceylon birds. I have heard that the black crows and drongos have been observed indulging in it, but this was my first experience of seeing a bird in Ceylon, carrying out the 'operation.'

C. E. NORRIS
Times

Darwin Wrong about Ceylon Jungle Fowl?

Mr. Frederick Obeyesekera, a Vice-President of the Ceylon Poultry Club, at a public talk sponsored by the club recently at St. Peter's College, Bambalapitiya, disputed Darwin's conclusion that the Ceylon Jungle Fowl when mated with other varieties produces "mule" hybrids which are incapable of procreating.

Mr. Obeyesekere spoke on the different species of Jungle Fowl, including the Red Jungle Fowl which he pointed out, was believed by Darwin and others to be the true progenitor of modern poultry. He also made particular reference to the Grey Jungle Fowl and the Ceylon Jungle Fowl.

"The Ceylon Jungle Fowl," he said, "is by far the prettiest of all other varieties of jungle fowl and experiments since carried out in Ceylon by the Ceylon Poultry Club and others proved conclusively that hybrids (produced by mating the Ceylon Jungle Fowl with domestic poultry) can and do produce offspring when mated together, and it would be erroneous to suppose, as Darwin did, that such birds have neither the pride of ancestry nor the hope of posterity."

Mr. Obeyesekere gave a brief summary of some experiments he had conducted in hybridising the Ceylon Jungle Fowl with domestic breeds of poultry, and explained the characteristics of a pair of hybrid specimens he had brought with him to illustrate his talk.

Referring to these two hybrid specimens Mr. Obeyesekere said they were living evidence to expose the weakness of the Darwinian theory which was obviously based on inconclusive findings.

The Fighting Shrew

THE Shrew is associated with wickedness and witches so much so, that a wicked person is commonly dubbed a shrew. The name, I see from my dictionary, comes from Anglo-Saxon word *Screawa* meaning a venomous mouse. I doubt whether they can be considered venomous. Cats seldom catch shrews, and owls prefer to leave them alone.

• For its size the shrew must be considered as one of the fiercest of animals as it will always attack, no matter what the odds are against it. It also has the distinction of having amongst its many species the smallest mammal known to science. The Ceylon Pigmy Shrew attains an overall length of some three and a half inches and, being so small, it often remains undetected. This tiny animal is of a species peculiar to Ceylon being well distributed in the hills. I have often seen them on the roads at night scuttling away like some insect.

Very little is known of the shrew's habits except that it is mainly nocturnal and feeds on small worms, grubs and insects. It would be most difficult to keep it in captivity not because it is hard to tame but because its metabolism is so intense that it would die of hunger within a few hours if the food supply failed. As it feeds on living animals, mostly insects, eating more than its own weight every day, it would be nearly impossible to satisfy it without devoting the whole day to its needs.

When excited, shrews will emit a strong musky odour which is probably a danger signal

to other animals. The Musk-shrew, which takes up its abode in bungalows and dwellings, gives its presence away by its strong odour thus making it all the more unwelcome. It is a pity that these little animals receive such short shrift in the houses of their choice for they drive away the common rat, and pick their habitat clean of cockroaches.

I recall, during the war, when living at Trincomalee, these musk-shrews always came into the bungalow in the evening and made their way around the skirting boards in a busy fashion. They gave us much enjoyment watching them go about their business without heeding our presence: they were quite inoffensive and I am sure were responsible for keeping down the cockroaches in the kitchen.

In Ceylon, we do not have a water-shrew although, the long-clawed shrew of up-country is generally found near streams but probably lives in burrows and so cannot be classified as a true water-shrew. Nearly all shrews found in Ceylon come from the hills, with the exception of the Musk-shrews, but this requires closer investigation to ascertain how low they will be found among the foot-hills.

It is possible that a great deal of interesting new information awaits the naturalist who is prepared to carefully study these interesting animals.

C. E. NORRIS
Times

Pina the Goat

Even a goat can escape the death house if he makes a sufficiently bold bid, and this fact is brought home to all who visit the harbour and meet the harbour mascot, a stud specimen of a goat named, by the world hardened dockers, "Pina".

In 1956 a cargo of Indian goats was being unloaded at the Queen Elizabeth Quay with the slaughter-house as their immediate destination.

"Pina" had no idea of winding up his life so shortly as mutton hanging in a butcher's stall.

A spring from the barge to the dock, and he was off, with the gang of keeps after him.

Out of the Queen Elizabeth Quay Pina went, with the men in full pursuit, and then he swam out to sea. The men swam behind him, but soon gave up battling with the strong currents that swirl in that area, and mindful of the other goats, made their way back, giving up Pina for lost.

But if the men could not cope with the sea, Pina could. His bid for freedom caught the imagination of the dockers; an experienced

swimmer went out almost half a mile and towed Pina back.

For three weeks the goat was hidden by the dockers before they set him free in the harbour premises to become their mascot. He roams the harbour as he will, and wherever he goes a hand is stretched to pet or feed him.

When our photograph was taken he was seated in the shade at the entrance to the Queen Elizabeth Quay with an air of magnificence.

Observer

5.5.60

FOREIGN

A Lion and his Prey

It was two o'clock in the afternoon in the Serengeti National Park, Tanganyika. Two magnificent maned lions were in front of us, some Thomson's gazelles were grazing around, while sandgrouse and Egyptian geese were drinking at a pool nearby.

We drove as close as possible to the nearest lion, went all round him and came to a stop facing in the direction in which he was intently staring. He continued to stare straight ahead. I followed the direction of his stare and observed a herd of zebra about a quarter of a mile away, all looking in our direction. One of the zebra was slightly away from the rest, to the left.

Presently the lion started off at a steady walk. We started off too. The lion and our Land-Rover went together, keeping abreast, only about fifty feet apart, across the burnt-up grass, over a dried-up stream bed, across the short yellow grass. The lion never so much as glanced at us as we kept alongside him. I kept wondering if something was going to happen . . .

Suddenly the lion stopped dead. Slowly his mane and the hair all down his back stood erect as he fixed his terrible stare on the wretched zebra in front. His black-tufted tail was raised aloft and swished ominously from side to side. An unforgettable sight: the cat and the bird scene on the lawn magnified a thousand times. The poor zebra, ears cocked forward, timidly

returned the stare, having observed the lion all the time across the open country.

Then the lion resumed his walk. He never once crouched, and made no use at all of ground cover which was available in the form of scattered thorn bushes and acacia trees. Dead straight across the open he went. Now he was doing a fast trot. Later he broke into a steady canter. My African driver kept at fifty feet distance from him.

At this point I noticed that the sky had darkened and that an occasional drop of rain was falling. The sounds of thunder rumbled in the distance: as though the heavens above were enlivening the grim spectacle with a dramatic accompaniment of the elements.

The grass was now longer. The pace had suddenly increased. The lion was off at a gallop after the zebra. The zebra was at last attempting to escape, half-heartedly, it seemed. The struggle for existence was madly on.

Soon the lion was racing alongside his quarry. Then he sprang. Both animals crashed, to disappear in the long grass. A cloud of dust arose.

The most unwitting member of the herd of handsome zebra had succumbed to the power of the predator: a commonplace fulfilment of the natural law of tooth and claw, predator and prey, survival of the fittest—without which the animal world could not survive in its rich and interesting variety: something that usually happens under

cover of darkness. How often we see the remains of some dead animal by daylight, never realizing the grim drama and tragedy which must have been enacted the night before!

Recovering from the impact of the spectacle, we drove hurriedly up to the scene of the kill, and stopped the vehicle a few yards from the dying zebra. The mane and part of the back of the lion were just visible as he lay on the ground holding down the zebra's neck in his mighty jaws to strangle it. After a few minutes he stood on top of his victim, twisted up its neck to satisfy himself there was no life left, and then lay down in the grass only a few feet away from the dead zebra and us.

It was now 2.30 p.m. and raining.

E. P. GEE

Indian Statesman and Oryx

Friendly Lioness

I have been reading one of the most enchanting books I have ever read about a lioness. It is called "Born Free", written by the wife of the Senior Game Warden of the Northern Frontier District in Kenya. It is a record of the extraordinary relationship established between the author and the lioness over a period of four years, a relationship which still continues. One has read stories about pet lions but never of one that has been returned to the wilds maintaining its relationship with human beings.

This lioness was obtained as a four-day-old cub that had been born wild. She was taught to obey the laws of society inside the camp, whilst outside, the author respected the laws of her wild inheritance. Even after she was returned to the wilds when three years old, she always returns whenever the Author visits their camp-site resuming her old relationship of friendship and equality. She delights in sleeping in the tent or riding on the roof of the Land Rover. One of the hardest problems was to teach her to hunt and kill for herself but this

slowly resolved itself until she was able to look after herself.

It is one of the most astonishing stories of an amazing relationship between a wild animal and human beings.

C. E. NORRIS

Times

Rammed his Fist down Tiger's Throat

A Circus animal trainer saved his life during a performance at Sydney last May by ramming his fist down the throat of a tiger which dived at him without warning.

The trainer, Carl Antoine, said the tiger, one of five, "had me down in the sawdust in a flash. She opened her mouth wide to take a bite at my head.

"I clenched my left fist and drove it down her throat. It's an old trainer's trick—tigers can't close their jaws with a fist down their throat."

An attendant drove the tiger off with a wood chair.

Antonie—his shoulder, arm and leg bleeding from claw rips—finished his act before receiving medical treatment.

The Balance of Nature—What does it Mean?

Maintaining the balance of nature means keeping up the biological equilibrium; that is the quantitative balance between living beings, animals and plants.

Primitive man is part of nature and does not disturb the biological equilibrium. Civilized man breaks it whenever he enters into virgin nature; he does it by the exploitation of forests, by agriculture, by cattle breeding, by the introduction of an exotic species or by other levies upon nature. Breaking this balance also means disturbing the ecological conditions. The "home" is being disturbed when the environment is changed by the elimination or heavy decrease of one of its animal or plant inhabitants. This disturbance reverberates upon the other inhabitants and sometimes affects again the environment itself.

Protectionists try to re-establish the broken biological equilibrium and almost every measure to protect a species has this as part of its intention. Literally speaking, the balance of nature can only be maintained in a place which civilized man has not yet exploited and where he has decided to forego exploitation. Most national parks in the U.S.A. are examples of this. In other areas, such as the Kruger National Park, man may decide to re-establish an equilibrium which has been broken.

In all other cases plant and animal ecology give way to the demands of human ecology. The broken biological equilibrium which follows leads to a fluctuating state which may end in disaster even for man. There is nothing new about this—it has been practised for many centuries in Europe and Asia and for decades in America, Africa and Australia. Only the definition is new.

G. DENNLER DE LA TOUR
Oryx

Grey vs. Red Squirrels in Hampshire

There are at least three introduced species living wild and one of these, the grey squirrel, has assumed the doubtful distinction of being the most frequently seen wild mammal in Hampshire. The municipal gardens at Bournemouth are the only place in the country where grey squirrels are known to have been intentionally introduced. They have spread out many miles, not only from here, but from Surrey and Sussex, whence the county was invaded in force in the early 1930's.

Red squirrels were still fairly common in my own village, near Southampton, as late as 1941, when greys first arrived from the north-east. For a time both species occurred, apparently happily, side by side, but only once did I actually see the two kinds together. I had paused to watch a red squirrel in a wood by a busy road when a solitary grey came along and entered the tree where the red was sitting. The red chattered helplessly and loudly from aloft until the grey, which completely ignored it, had passed

on well out of view. Red squirrels, I will recall, were an everyday sight in the New Forest until 1942 and even later. Within seven years of the first grey squirrel being killed in the New Forest in 1940, the alien species had colonized the whole of south-west Hampshire. The numbers annually killed now amount to thousands. Red squirrels, on the other hand, are almost extinct in the Forest, being reduced to perhaps a dozen individuals all told. Only in the Isle of Wight, which greys have never reached, are red squirrels still to be found as plentifully as ever.

P. H. CARNE
Oryx

Efforts to Save the Great Apes from Extinction

Preparations are being completed for an international congress to be held beside Lake Kivu in Ruanda-Urundi to make plans to save the great apes from extinction. This will be the latest of several efforts—fostered in England by the British Association—to draw attention to the plight of wild animals in Africa and get something done about it.

Various estimates made in the past few months point to there being fewer than 500 mountain gorillas left.

The story of the mountain gorilla is in fact the most urgent case.

Peaceful day-to-day contact with these animals started about four years ago with the aid of guides and trackers, and has been maintained by a remarkable man, W. M. Baumgartel, landlord of the Travellers' Rest of Kisoro, in western Uganda, with financial assistance from the University of the Witwatersrand. When the experiment began Dr. Raymond Dart was professor of anatomy at the university, and now he spends most of his active retirement between continuing researches into the campaign to save the great apes. There a more mature understanding of the inherently peaceful nature of the great apes has replaced the well-rooted grim concepts of their ferocity, spread through hair-

raising yarns related by hunters and popular novelists.

Dr. Dart tells how Reuben, one of the guides at Kisoro, stands right in front of a gorilla when he comes face to face with him in the dark forest. Says Dr. Dart: "Reuben stands motionless, looking the gorilla in the eye; and the gorilla, after making his rush and roaring demonstration, ambles off when assured his family is safe."

Gorillas quickly become accustomed to the daily sight of men. Dr. Dart describes how Mr. George B. Schaller, of Wisconsin University (who has been making a two-year study of these animals), found himself sharing a bough with some of the younger members of a family he was making notes about.

He estimates that the number of mountain gorillas in the Parc Albert, in Ruanda, "probably exceeds 350 animals," and says the chief danger to them comes from Watusi cattle.

In Ruanda a cult of cattle is practised by the backward Watusi tribe, who originally came from the Nile region. As in many Bantu tribes, a man's social status is dependent upon the number of cattle he possesses, regardless of quality, and the Watusi sacrifice no beasts for food. Thus fruitless pasturage has led to a total disappearance of wooded vegetation and widespread soil erosion.

The future of the more numerous low-country gorilla (mainly in the Cameroons) and the chimpanzee hardly seems brighter.

It is not only the great apes which are in danger. Most of the larger species are likely to become extinct unless international action is taken quickly. There are two main causes for this alarm. One is the expected attitude of the emerging states toward wild life in general, and the other is the "population explosion"—long the key problem in Asia and Europe and now a reality in Africa. Dr. Dart says the present generation is likely to be the last able to study wild animals in their natural state before they give way completely to the "rapid advances

of mechanized agriculture and pullulating population."

At a meeting of the Wild Life Protection Society in Johannesburg the president, Mr. N. H. Gilfillan, said that pressure of voters in the emerging states would most likely compel the new Governments to throw open the game reserves, first to meat hunters and then to farmers. The attitude has been that the indigenous animals belong to the indigenous people—and very little can be done."

The society's members have come round to the view that only in South Africa and the adjoining Portuguese territories can wild animals enjoy security in foreseeable years, in places like the Kruger National Park, the Gemsbok reserve in the Kalahari, or at Hluhluwe in Natal, where white wardens jealously keep guard.

London Times

29.6.60

Threat to Gorillas

A few mountain gorillas survive outside the Birunga volcano chain of Central Africa but the majority of these magnificent animals perhaps four hundred of them at most, are to be found high up in the hills where the borders of Ruanda, Uganda, and the Belgian Congo meet. Few know where they are and until recently, few cared. Those who have looked after them have tried to keep them safe and remote from ordinary life.

But all has been changed by the coming of political independence to the Congo. Tribes are on the move. Watutsi pastoralists in search of new grazing grounds are encircling the Birunga, and hunters are moving ahead of them. There are reports of camps among the bamboos and giant ferns. If this is so the gorillas are doomed.

Nobody is likely to attack them directly; few dare. But like so many animals, the existence of the gorilla depends on the maintenance of its habits. Each troop of about a dozen animals requires a large amount of living space.

This is unlikely to be found on the borders of Ruanda and the Congo or, indeed, in many other parts of the world.

JOHN HILLABY

Orang Utan Pets to be Registered

As part of new attempts to prevent illegal trading in Orang Utans, the import or export of these animals has been prohibited entirely in the Federation of Malaya. All those which are being kept as pets have now to be registered before the end of April, the intention being to have a record of how many are left in Malaya.

The real home of the Orang Utan is in Indonesia, and nominally it is a protected animal there. But in practice this protection is haphazard, and traffic in the animal goes on.

In the state of Selangor in Malaya thought is also being given to the plight of wild pig, which are illegally trapped and sold. An official statement says that in the past, by arrangement between trappers and dealers, all four feet of a carcass would be cut off before it was brought to market so that there would be no incriminating marks of where the trap had caught the pig. By compelling dealers to keep a proper record of their dealings, and with the help of other changes in the game law, the game warden hopes to have a stronger hold over dealers who buy wild pig and other animals as well as birds, which have been caught cruelly and illegally.

London Times

Why the Doctor Bags his Rhino with a Bow . . . and a Sleeping Draught

While Rhodesians throughout the Federation are pitching in to help Congo refugees, an isolated team of men—five whites and 40 Africans—have brought off the most daring and dangerous rescue operation in the history of African wild life.

From a 1,000-acre island in the world's biggest man-made lake—Kariba—game rangers

captured bare-handed and took off three ferocious rhinos.

But that's only half the story.

Before tackling the two-tonners, they first had to clear the drowning strip of land of 480 animals, including a herd of stampeding zebra and long-horned African antelope.

The man behind the operation, 48-year-old senior ranger Rupert Fothergill, told me how "Operation Rhinos" was carried out.

"We decided to keep this operation a complete secret until it was all over. Otherwise people would have swarmed around the island and there was the danger of someone getting hurt, apart from getting in the way.

"The island is over a mile from the mainland, and it was swarming with trapped wild life. Apart from three rhinos there were herds of antelope, waterbuck, crazed zebra, wild pigs, hyena, warthogs, and an assortment of wild cats.

"These animals hampered the rhino operation and were very dangerous, so we decided to clear them off first—one by one.

"We tackled the zebras first by driving them into nets and then my men tied their feet together and carried them off on machilas (a net slung between two poles)."

It was hard work? Dangerous?

"Well, we consider it our job and when it becomes dangerous then we are not doing the job properly. It took us three days to clear the island of 480 game, leaving behind a few harmless buck and pigs.

"Then the real job started.

"The rhinos—a bull, cow, and three-quarter grown calf—were wild and charged at anything that moved.

"The big operation was planned over three days. At dawn on the first day we landed on the island. The spearhead of the attack on the first rhino—the cow—was a drug expert, Dr. John Lock, of Marakerere College in Uganda. He was armed with a powerful crossbow.

"Ranger Mike Van Rooyen and I flanked the

doctor with rifles to cover him. The rest of the team followed behind with the equipment.

"We crept through the bush and long grass to within 30 yards of the rhino cow.

"Dr. Lock raised himself slightly and the crossbow twanged. An arrow, tipped with a long needle, smacked home on the rhino's rump and squirted in a numbing drug—gallamine triethiodide.

"We jumped up and rushed at the rhino. It charged about in a frenzy for about ten minutes before it became drowsy. Then came the tricky job—as the rhino fell we jumped in and tied its huge legs while the doctor gave the antidote injection of neostigmine.

"It was a tremendous job heaving the rhino on to a specially made sleigh and then hauling it to the raft on the bank.

"Meanwhile the beaters kept the other two infuriated rhinos at bay.

"While we towed the cow rhino to the mainland we gave another injection, a tranquilliser largactil.

"On the mainland we untied the animal and then made for the nearest trees. The first job over—it had taken all day—we then tackled the calf, an easy job.

"But then came the bull. For hours it ran maddened around the island.

"Then he did an amazing thing, something in all my experience of wild life I never thought a rhino could do.

"It jumped in the water and swam out into the lake for 30 yards.

"Some of the Africans in a boat tried to drive it back. But they overturned and had to swim for it with two tons of snorting fury after them.

"Back on the island we positioned ourselves in three groups with my team in the middle. We had him cornered.

"The rhino charged at Dr. Lock and then at Van Rooyen and as it whirled round to have another go at the doctor. Van Rooyen let fly with his arrow—he hit first time in the rump and ten minutes later the rhino was ours.

"But our troubles were not over. After trussing him up and towing him to the mainland the bull recovered, lashed out wildly, and jumped into the lake, overturning one of the boats.

"In the water African rangers were swimming about yelling. Back on shore the rhino thundered about looking for us, but we were all up trees.

"Then it was all over. The bull charged away into the dense bush.

"But our job was not finished.

"There are four more rhinos on a lake island which will have to be rescued soon."

Harvey Ward in *Daily Mail*

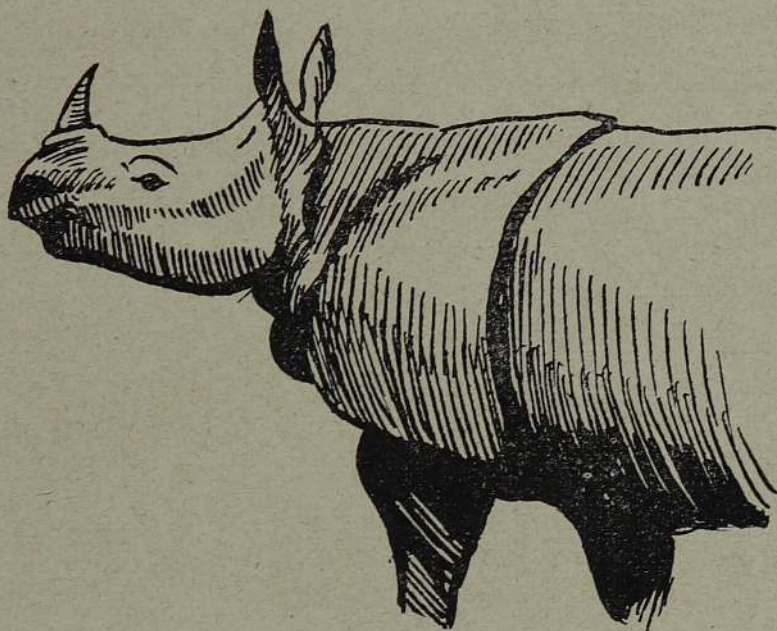
Unicorns of the Romans

The Romans exhibited unicorns in the arenas. These animals were really *Oryx antelopes* from Africa. The bestiarii (trainers of animals for the games) would take a young oryx and bind its horns together as though grafting twigs. The



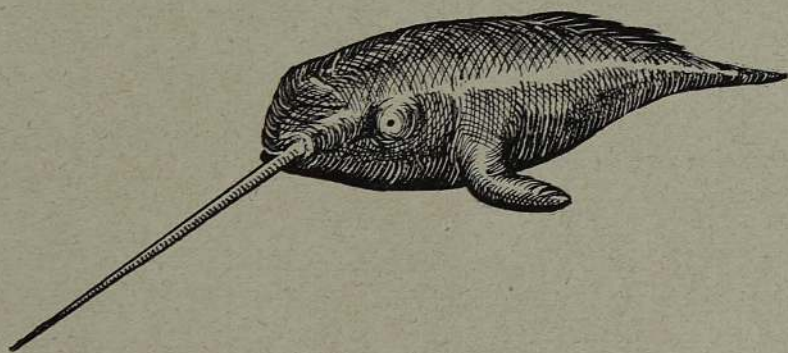
Oryx

soft horns would grow together producing one straight horn which was a far better weapon against other animals in the arena. The legend of the unicorn probably originated from this custom, though some believe that the original unicorn was the *one-horned rhinoceros of India*.



One-horned Indian Rhino

Unicorns were supposed to be tropical animals. But the Romans imported their horns from the Baltic. The Roman animal catchers in Asia and Africa never got any unicorns. The Vikings had some broken pieces of unicorn horns. They said it came from a great fish which fishermen occasionally caught in their nets. The Vikings called it a *narwhal*. The fish might be called



Narwhal

a sea unicorn, for the male had one long horn growing from the tip of its nose. The Romans found it difficult to believe this, for the horn was ivory and fish didn't grow ivory; but the narwhal, being a mammal like a whale or porpoise, can produce ivory.

D. P. MANNIX
in "Those About to Die"

24 Men Driving 2,000 Wild Elephants to New Home

More than 2,000 elephants, which have been causing severe damage to crops, are being driven in Tanganyika's Southern Province towards the Lung'onya Controlled Area and the Selous Reserve, where there is an abundance of natural food and water awaiting them.

Farmers and plottolders in the coastal area of Kilwa are overjoyed.

Their efforts have been constantly destroyed by roaming herds of elephants.

Directing Operation Tembo, which has been in progress for 18 months, is the Game Ranger, Southern Province, Mr. Brian Nicholson.

The 21 game scouts and two officers are keeping the herds on the move by employing harassing tactics and by refusing to let the elephants rest.

The herds are now two-thirds of the way towards large uninhabited areas, where it is hoped they will live in peace, and not return to the coastal thickets.

Evening Standard

5.4.60

They Killed Elephant Man

Two men were sentenced to death today at Dakar for killing Raphael Matta, "Friend of the Elephants", with poisoned arrows.

Matta, a Frenchman, launched a one-man crusade to protect wild life in Africa, particularly elephants. During an initiation ceremony on January 16, 1959, Matta asked tribesmen to throw away their bows and arrows. Violence broke out, Matta was killed.

Sunday Express

He made the Beavers Eager once again

In London this week for the first time for almost 40 years is The Man Who Brought Back The Beavers. He is here with his quarter-Indian wife for British publication of his book (*Three Against The Wilderness*, to be published by Hutchinson in September), about his pioneer years in farthest-flung Canada.

For 30 years Eric Collier and his family have lived in British Columbia, 25 miles from a telephone, postal service, water supply, and neigh-

bours, and a seven-hour horse ride from the nearest trading post.

Their son, Veasey, after fighting in Korea, got a job as lumber quantity surveyor, although he had never had a day's schooling.

"The wilderness is a good education," said his father.

When Eric Collier, a Northampton manufacturer's son, in 1921 first pushed north—with a new wife, baby, wagon, rifle, and \$30—into the British Columbia interior, the land was dying.

The 150,000 acres of spruce and scrub he had leased from the Government were almost trapped-out. Wolves and coyote roamed the woods, but most fur-bearing creatures had gone.

It was a 97-year-old Indian woman who gave Collier his clue to the blight upon the country. Once, she told him, every creek had its beaver lodge, and the colonies' tree-dams had kept the water level high and the country green.

When the white men came the beaver's pelt took on a cash significance, and soon the mild, oar-tailed animals were wiped out.

A seven-hour horse-ride from the nearest trading post, the Colliers built a cabin below Meldrum Lake and began to hack out a living with gun, trap, and spade. They also became substitute beavers and began to repair the collapsed dams.

The water mounted and spread, and in 1941 the Game Department saw what Collier was attempting. In tin boxes were delivered two pairs of real, live beavers, caught in a distant reservation, and for the first time for 70 years dark brown heads drew broad *Vs* across the Meldrum waters.

Today eager beavers keep their dams in good trim throughout the whole province, which is wholly regenerated in wild life. The Collier example has been copied widely, even in America, where beavers have been imported into States with water-conservation problems.

Now he is starting another book, about his experiences as a big-game guide—and not especially enjoying trapping words at a desk. He says :

"Writing is like putting up a rail-fence. If I've got a mile of fencing to build I set myself so much a day. That goes for words too. In the end you've got your subject fenced in—but it's hard work."

Daily Mail

23.7.60

The Mermaid

" As the launch approached, she dived and hid herself beneath the grass.

"I fished blindly with the hook hidden in the weed. Then as I felt contact, I pulled. She did not struggle. She gave herself calmly as if wishing to leave the sea. As she rolled over, the boathook slipped. But, even given this freedom, she did not dart away. She lay on her back, just below the surface, showing on her chest a pair of small breasts like inverted tea-cups. Of her face all I could see was a turned-up nose, revealing large nostrils, and a sensuous and quite human mouth.

"I was very careful this time to hook her where she could not be disfigured, partly because her resemblance to a woman made me feel that it was almost wrong to capture her at all and partly because she was so helpless and lacking in fight.

"I drew her alongside gently until looking directly downwards I could see her clearly without refraction. It was like waking from a lovely dream into a day-mare. Her resemblance to a woman did not disappear; but it became a travesty of the human animal, the hideous revelation of the beast in man. She stared senselessly at me with the close-set eyes of a pig. Out of her snout were growing hairy bristles. The only thing about her that was not revolting was the long tail with its crescent-shaped tip."

'ELEPHANT BILL' WILLIAMS
in his book, "Of Mermaids"

Lemurs

Large forests in Madagascar, the home of a unique fauna of lemurs, are being destroyed and

the situation is much the same in India and South-east Asia.

Ed.: *Our Loris belongs to the same family.*

Cobra-Mongoose Fight

From *Photography*. April, 1960

THE information comes from T. S. Nagarajan of New Delhi, who took the mongoose and cobra sequence in our February issue (p. 31). The pictures were so good that we ventured some doubt about their authenticity. The photographer has told us exactly how it was done, as follows :

“ At the outset, I must reveal that I did not come across the fight by any kind of accident. Indeed, I arranged it with considerable difficulty. And this is how I did it.

“ I have a friend called Shahzad, a cobra hunter by profession. With his help I had taken a number of pictures of cobra catching. But it was my long desire to record in pictures a fight between a cobra and his deadly foe, the mongoose. A few months back, I made attempts to find possible places where a mongoose could be trapped. I learnt that there was a mongoose living on the outskirts of a village near Mysore.

“ Trapping it was no easy job. I camped with my friend Shahzad near the village for two days. A few yards away from the bush beneath which the mongoose was living we laid out a net with some vermin on which the animal generally feeds. Before we succeeded, we had to spend two sleepless nights on the watch for our mongoose. To transport him after the hunt was a problem. He was extremely active and would tear to pieces whatever we used to hold him. We finally took him home in a thick gunny bag. As for the cobra, there was no trouble. Shahzad had caught one a few days before, near Mercara in Coorg. It was nearly 6 feet long.

“ The fight was scheduled for next day at about 2.30 p.m. A suitable place near Mysore was chosen as the arena. I was equipped with my camera and a good number of film rolls. Though we had tried to keep the encounter a

secret, a small crowd had gathered. The combatants were allowed to meet. Both of them came together ferociously at great speed. The cobra was viciously on the offensive. I found it difficult to take pictures from close range. Since I had no telephoto lens with me. I had to shoot in the beginning from a distance of at least 15 feet. Also, I had to use a shutter speed of 1/500 of a second to catch the rapid action.

“ At one stage during the fight I attempted a close-up of the rivals. The cobra, resenting my intrusion, started chasing me. I confess, I ran fast with all my equipment for some distance, but the mongoose angrily followed my pursuer and caught him in his needle-like teeth. I breathed a sigh of relief. By now the cobra was reduced almost to exhaustion. It was soon the turn of the mongoose. He began playing with his opponent, cat-like. I felt confident and started to take pictures from a closer range.

“ When the fight neared its end it was a sad affair. The cobra, torn and wounded, made helpless attempts to strike. The mongoose made a final assault and caught the reptile's hood securely. The cobra, after vain attempts to escape met his death in a pool of blood.

“ More than two hours had passed since the fight began. It was only then I realized that I had taken more than a hundred pictures.”

Red Marks for Troublesome Bears— Canadian M.P.'s Protest

Members of the Canadian Commons who live in the Rocky Mountain area have refused to be amused as were other M.P.'s at an account given by the Northern Affairs Minister, Mr. Hamilton, of how bears that turn troublesome are trapped and have their posteriors painted red before being turned loose in remote areas of the national parks.

The Minister said that being responsible for the parks and wild life his duty is to protect the bears. Yet there are frequent reports of tourists who feed the bears being injured when engaged in a practice forbidden by the park regulations.

There are other instances of persons attacked by bears which explore garbage at summer cottages.

Mr. Hamilton said that the troublesome bears are painted so that they can be identified if they return from the wilds to the garbage dumps or to beg from tourists. They have no second chance. A bullet ensures that they will be no further danger.

But Alberta and British Columbia members did not enjoy the laughter in the House about the painting of bears, and soon after the Minister spoke Mr. Arthur Smith, a Calgary member, said that the park officials should destroy a large number of these animals roaming the parks to reduce the danger to visitors.

Bird Flies 4,000 miles

A small ringed bird has reached Sierra Leone after a flight of more than 4,000 miles from Finland, in Northern Europe.

The bird, which has been identified as a turnstone, was caught on the roadside four miles outside Freetown, the capital. It had lost one of its wings.

The inscription on the ring round one of its legs indicates that the bird was ringed by a museum in Helsinki, the capital of Finland. The inscription reads: "A—93108 Mus. Hiki, Finland.

New Whooping Cranes

Three whooping cranes have been hatched out in the Canadian North-West Territories, bringing the known total of these rare birds to 43. Last night's debate in the Canadian Parliament was interrupted for announcement of the news, which was greeted with desk-thumping applause.

Evening Standard

28.7.60

Correspondence

International Council for Bird Preservation—Asian Section

Sir,

At the XIII world conference of the International Council for Bird Preservation held in Tokyo, 24-30 May, 1960, the attending Asian delegates (from Korea, Formosa, Malaya, India, the Riu Kius, and Japan) resolved to form themselves into an Asian Section on the lines of the existing European and Pan-American Sections which include all the countries of Europe and South America respectively. It was felt that such a step would help to foster a greater interest in wild birds among Asian countries, and lead to closer co-operation and reciprocity of action among them in the matter of bird preservation. The headquarters of the Asian Section is located in Tokyo, Japan. The following office-bearers were elected:

Dr. Yoshimaro Yamashina (Japan), President.

Dr. Kim Hon-Kyu (Korea), and Dr. Salim Ali (India), Vice-Presidents.

Mr. Hoketsu (Japan), Secretary.

One of the first and foremost tasks of the Committee is to invite all those Asian countries which are not already members of the International Council to form national sections and get themselves affiliated to the parent body. For administrative convenience, the Committee will act as liaison between the various Asian national sections and the parent body. As Vice-President for western Asia I am taking the liberty of inviting you to get together a number of such individuals, or societies or institutions in your country as may be interested in the study and preservation of wild birds, and in nature conservation generally, and form yourselves into a National Section for affiliation to the Asian Section and the International Council. National Sections pay an affiliation fee of £2 to £5 per annum at their discretion, according to capacity.

Since 1958 a system of individual membership has also been introduced by which individuals interested in bird preservation and wishing to help the cause may make a contribution of £5 or more per year which entitles them to attend the bi-annual world conferences of the International Council and participate in all its activities.

All over the world, particularly in recent times, many beautiful and economically beneficial wild birds have been driven to the verge of extinction by the thoughtless vandalism or short-sighted greed of Man, while several other species have vanished altogether. Public conscience has been aroused in most western countries; and by educating public opinion about the value of birds as a national asset, and by the timely passage of protective legislation, a serious effort is being made by many nations to preserve their bird life for the enjoyment and benefit of the people, and for future generations. In such ways it has often not only been possible to save many species from extinction, but even to rehabilitate them to their former abundance.

Unfortunately in most Asian countries the forces of destruction are still active and unchecked. It is clear that unless suitable and urgent action is taken by the governments concerned, with the intelligent backing of public bodies and private individuals and institutions, it will not be long before many of the dwindling species will disappear completely.

At the present time some 58 countries in various parts of the world have established their national sections and are members of the International Council for Bird Preservation (ICBP). Each year new ones are formed which join in our efforts to save bird life on the earth. Since the end of the war many new countries of Asia and Africa have emerged or are emerging as independent nations. With the attainment of nationhood, these countries are bound to become more or less industrialized, and in other ways be opened up for commercial exploitation. At this stage it is therefore urgently necessary that each country should establish some suitable machinery to act as watchdog to see to it that in

the rush for material advancement Nature Conservation and the right of wild life to exist, side by side with the human population, is not jeopardised. As far as wild birds are concerned the national sections of the International Council for Bird Preservation (ICBP) should be able to discharge this function admirably, as they are doing in so many countries of the world today.

Normally the national sections are not government-sponsored. But though autonomous, they enjoy in all cases the full recognition and backing of their own governments which look to them, as expert committees, for advice and guidance in all matters—legal, administrative, or scientific—concerning the preservation of, and traffic in, wild birds and their products.

If you already have some such advisory body or bodies functioning in your country you will find it of very real advantage to form these into a national section and get affiliated to the International Council for Bird Preservation.

Since birds are not confined by national boundaries, their effective preservation can only be achieved by co-operative and reciprocal action on the part of all the countries involved. International conventions thus become a necessity, and the ICBP is the organization that makes such conventions possible through its affiliated national sections. As a case in point the long-standing dispute between Canada and the United States of America—now happily settled—might be cited. A very large proportion of all the migratory wild ducks and geese that are shot by sportsmen in the U.S.A. in autumn and winter—and from which the U.S.A. derives a substantial revenue of millions of dollars annually by way of shooting license fees, etc.—breed to the north, in Canada, during spring and summer. Canada's legitimate grievance was that while she did all the work of providing ducks for U.S. sportsmen, and revenue for its government, she herself got practically no benefit from it. Apart from financial sacrifice, she was constrained to shorten her own shooting season considerably in order to allow the ducks to breed undisturbed. The national sections of the two countries between

them worked out an equitable arrangement whereby Canada was to be suitably compensated, and the two governments signed a covenant which now operates smoothly and amicably, to the satisfaction of both countries. There are many other problems of this nature, such as those relating to migratory birds, the plumage trade, and the menace to sea birds caused by discharge of waste oil from ships, which have been solved or are capable of solution only by international convention and co-operation, thus demonstrating the important role that national sections can play on the international plane.

If any further particulars are needed, I shall be happy to supply them.

SALIM ALI
Vice-President, Asian Section,
ICBP.

C/o Bombay Natural History Society,
91, Walkeshwar Road,
Bombay 6.

DECLARATION OF PRINCIPLES OF THE INTERNATIONAL COUNCIL FOR BIRD PRESERVATION

The following Declaration of Principles, first adopted in 1922 and the By-Laws, both revised to-date, are given below.

We believe that wild bird-life is of great importance in the world in helping to preserve the balance between species which Nature is constantly seeking to adjust, that birds have a great importance for science, exercise a great aesthetic influence on all right-minded people, and are of great value to mankind as food, as destroyers of rodents and injurious insects, and as incentives for reasonable field-sports.

We believe that, through ignorance, selfishness, and from an undue desire for gain, mankind is reducing the number of birds in many countries at an alarming rate, having in fact already exterminated from the earth various interesting and valuable species.

We are in sympathy with all reasonable methods taken to increase the number of game-birds in order that the surplus may be used for food or sport. We commend the study of the food habits of wild birds in relation to agriculture, horticulture, and forestry, and the publication of the information thus obtained, in order that the people of the world may acquire a more accurate conception of the value of bird-life.

We rejoice in all efforts being made by educational institutions of whatever nature, as well as by thousands of private individuals, in imparting to the general public knowledge regarding the appearance, habits, activities, and songs of wild birds, so that adults and children alike may be taught to appreciate the aesthetic value of the living bird.

We believe that, to bring about more adequate bird-protection much good can be accomplished by the wider organization of The International Council for Bird Preservation.

We therefore, approve of the above Declaration of Principles and the following :—

BY-LAWS OF THE INTERNATIONAL COUNCIL FOR BIRD PRESERVATION

Article I—NAME

This organization shall be known as The International Council for Bird Preservation.

Article II—OBJECT

Its object shall be to stimulate interest in all countries for a more adequate protection of wild bird-life.

Article III—OFFICERS AND EXECUTIVE

Section 1

The Officers shall consist of a President, two Vice-Presidents and one or more Secretaries.

Section 2.

The Executive shall be composed of the President of the International Council, the Vice-Presidents, and the Chairman of the various National Sections.

The Secretaries mentioned under Section 1 shall be the Secretaries of the Executive.

Section 3.

The Executive shall represent the International Council in all matters which may arise in connection with its work when the Council is not in session, but matters of urgency may be dealt with by the officers as a body.

Section 4.

The President and the Vice-Presidents shall be elected on or about 1st June by a majority vote of the Executive, either by correspondence or by personal approval at a meeting of the Executive, this election to take place every two years commencing with June, 1922.

Beginning with 1938, Presidents and Vice-Presidents shall be ineligible for election for more than three consecutive terms without an intervening period of two years.

The Secretaries shall be appointed by the Executive every two years, but may be re-appointed without any restriction of time.

Article IV—MEETINGS

The International Council shall meet at such times and such places as may be determined by the Executive.

Article V—NATIONAL SECTIONS

Section 1.

A National Section shall be composed of eight or less institutions, societies, and associations interested in the preservation of wild birds, and each may be represented by two delegates.

Section 2.

Any country, in which there is not already a National Section, may seek membership in the Council by applying to the Executive which has power to accept or reject such application. All National Sections must notify the President of the Council of their acceptance of the Council's Declaration of Principles.

Section 3.

Each National Section shall elect a Chairman and effect such other details of organization as its members may desire. Its activities and publications shall not be inconsistent with the Council's Declaration of Principles.

Section 4.

Each National Section shall make an annual contribution towards the expenses of the International Council with a sum not less than two pounds sterling.

Article VI—CONTINENTAL SECTIONS

When desired by the National Sections of the International Council of any continent or continents, there may be formed a Continental Section, for example, the European Section, the Pan-American Section, etc. The activities of such a Section shall not be inconsistent with the Council's Declaration of Principles.

Article VII—VOTING

At all meetings of the International Council each country represented at such meeting by one or more members of its National Section shall be entitled to one vote on all matters of business.

Article VIII—PUBLICATIONS

The Officers of the International Council shall from time to time publish bulletins and reports concerning the activities of the Council and bird preservation in general.

Article IX—AMENDMENTS

These By-Laws may be amended by a majority vote at any regularly called meeting of the International Council or at any other time by a majority vote of the Executive, provided that notice of such change has been mailed to all members of the Council at least sixty days in advance.

Future Field of Zoology

Sir,

In *The Times Special Number* on Tercentenary of The Royal Society is a contribution by Professor C. F. A. Pantin, F.R.S., University of Cambridge, entitled, "Future Field of Zoology."

I submit a copy of the last paragraph of Professor Pantin's article.

I have his permission to make use of it.

"But the greatest tasks that face the zoologist concern animals and man in nature; the control of food supplies, insect pests, or disease. Production of an insecticide is easy. Prediction of result of its indiscriminate use is exceedingly difficult. We try to control nature, and by a curious paradox we change the natural world more rapidly and unpredictably

than even before. Here are the most difficult problems that face our own future."

Lieut.-Col. R. W. BURTON

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A Lovely Holiday

Today (1.8.1960) we arrived at Ruhuna National Park, and on the way we saw two jackals, a crocodile, and a wild boar, and several wanduroo monkeys. In the afternoon we went out to Jamburagala, on the way we saw an elephant, hundreds of spotted deer and wild boars. When we arrived at Jamburagala rock, we saw several crocodiles in a tank. We then climbed the rock, from where we could see miles in every direction. In a big tree quite close there were lots of wanduroo monkeys, playing on the branches. Down a path leading into the jungle, we could see the head and trunk of an elephant, sticking out from under a tree. We then returned to the main road and went to Wilapalawewa, where we saw another elephant, scratching up the dust with his feet and sucking dry leaves up his trunk. All along the road we still continued to see lots of spotted deer, buffaloes, and boars.

We went to Buttawa and Patanagala tanks, but saw nothing. By this time it was getting dark, and as we were not allowed to use lights, it was quite hard to drive as the roads were very bumpy. Just as we were nearing our bungalow, we saw another elephant very near the edge of the road, scratching up dust. As we had no lights, we had to drive very carefully, as there were lots of buffaloes on the road.

Next day we went out at 5.45 a.m. and drove to Yala River (Menik Ganga) where there were a crowd of lost pilgrims, this unfortunately stopped the animals coming to drink. So we went around the jungles and water-holes and we saw only pigs, deer, buffaloes and of course many peafowls. Then we went to Buttawa Tank which was nearly all dried up, and saw

white storks, and a painted stork. At the bungalow I climbed the rocks with daddy and I saw a leopard, which disappeared into a cave, then we saw six sambhur on the beach. When we were going swimming I was playing about 5 yards away from Mama and Daddy, where I saw a snake about three yards away from me.

In the evening we went out at 4 o'clock and we saw an elephant kicking up the dust and near him there were cows, buffaloes and deer. At Patanagala we saw a wild elephant drinking in a rock pool, it then moved away and started kicking up dust, for it was annoyed with us for disturbing him. Later we saw a male and female sambhur. In all the rock pools and water-holes there were always crocodiles.

We went out at dawn again. The first thing we saw was an elephant about ten yards away from the car. Later we went down a track you could hardly see and saw deer and a stag which was very beautiful. A little further on we saw a peacock with all its feathers out, dancing, but it put its feathers down as it saw us. Soon we got out and sat on a rock, with a water-hole in the middle of it, in this there was a buffalo bathing and when it

saw us, it had great difficulty in getting up the rock, as it had a broken fore-leg. Later we went on Jamburagala rock and we saw lots of wanduroos. We also saw the adjutant bird, which is the biggest bird in Ceylon and very rare.

So the end of a lovely holiday.

SUSAN AND JAQUELINE HARDINGE,
Aged 11 and 9 years

Dugong Sanctuary

Sir,

The June Number of "*Loris*" is most welcome and full of interest as usual.

I do hope your proposal for a Sanctuary for the Dugong will be taken up. Ceylon has become famous as the first country to have a lady as Prime Minister. A Dugong Sanctuary would equally enhance its prestige and would stimulate interest among animal lovers all over the globe.

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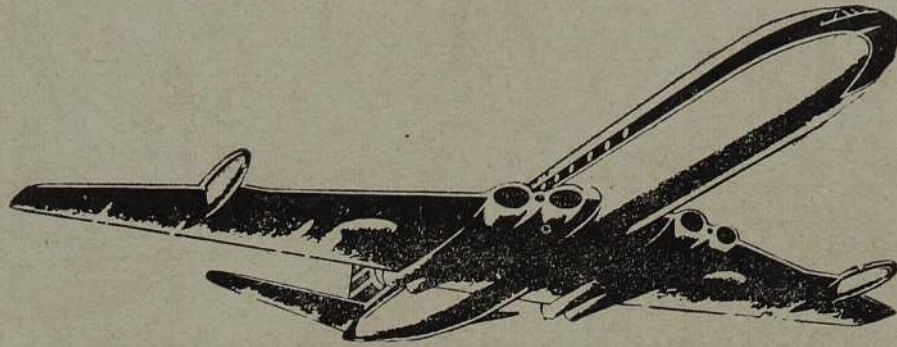
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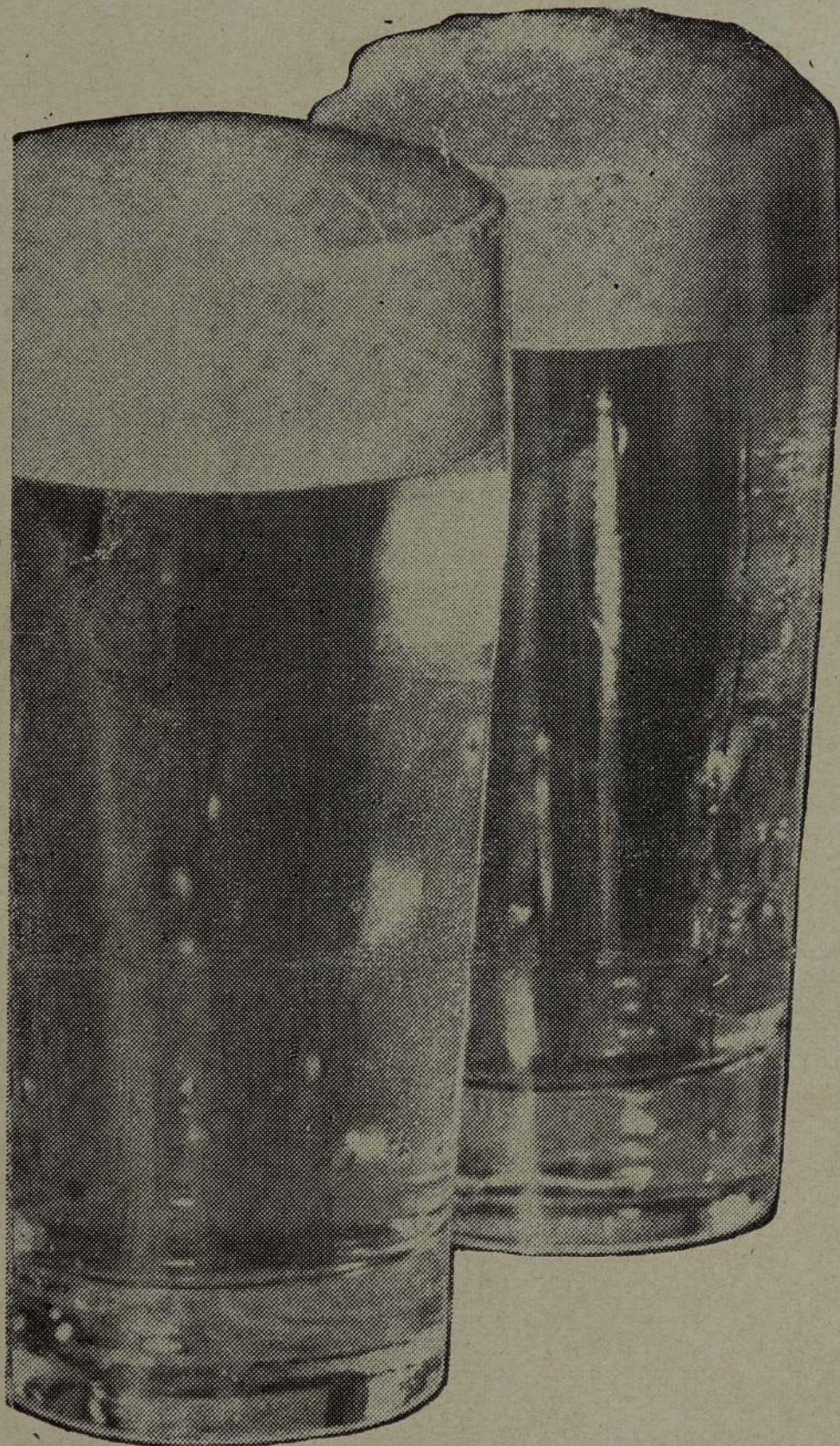
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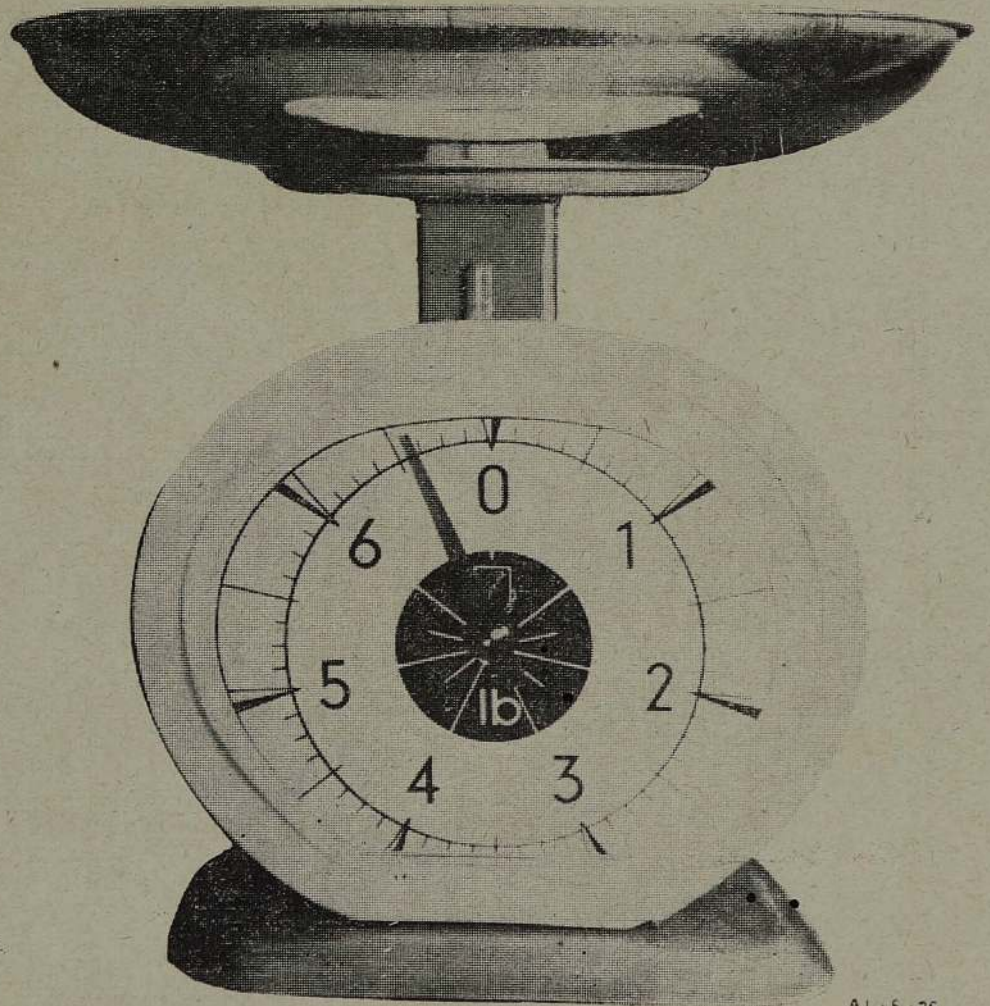
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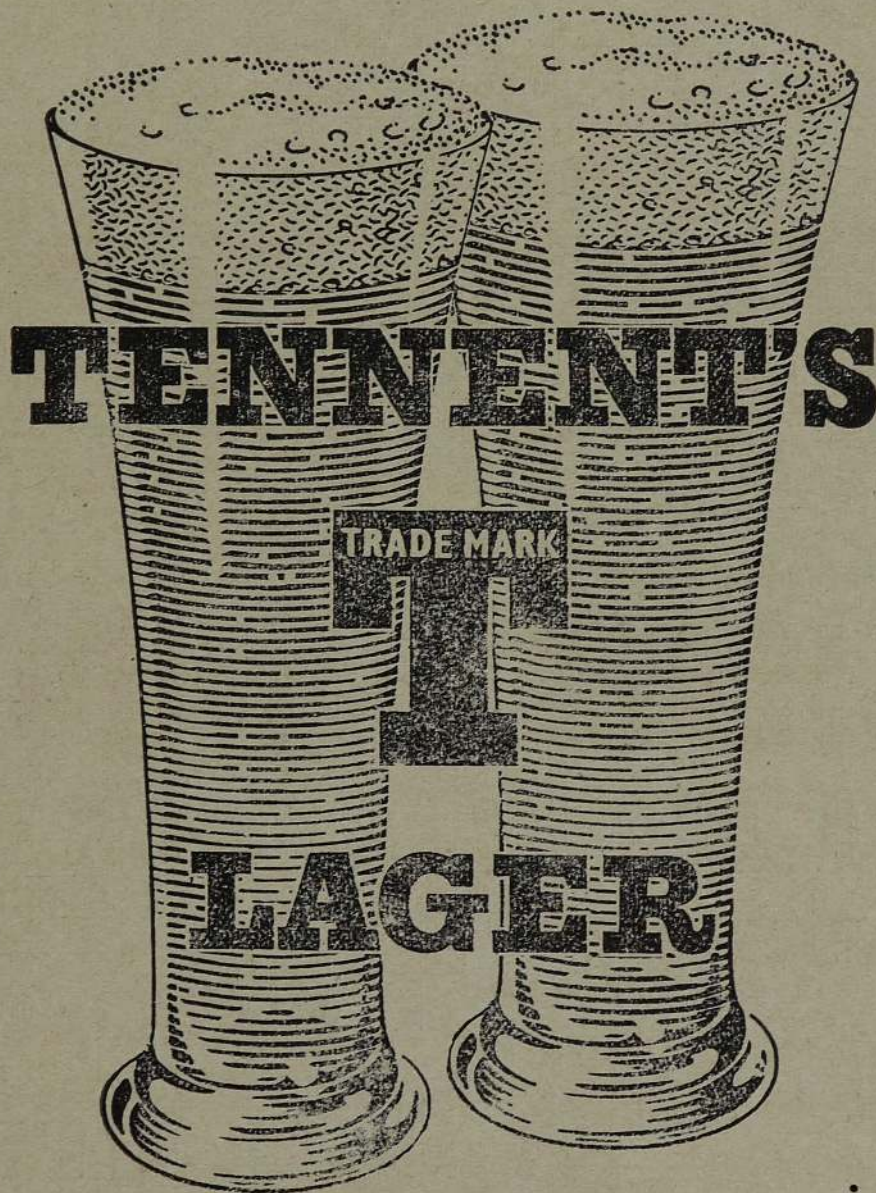
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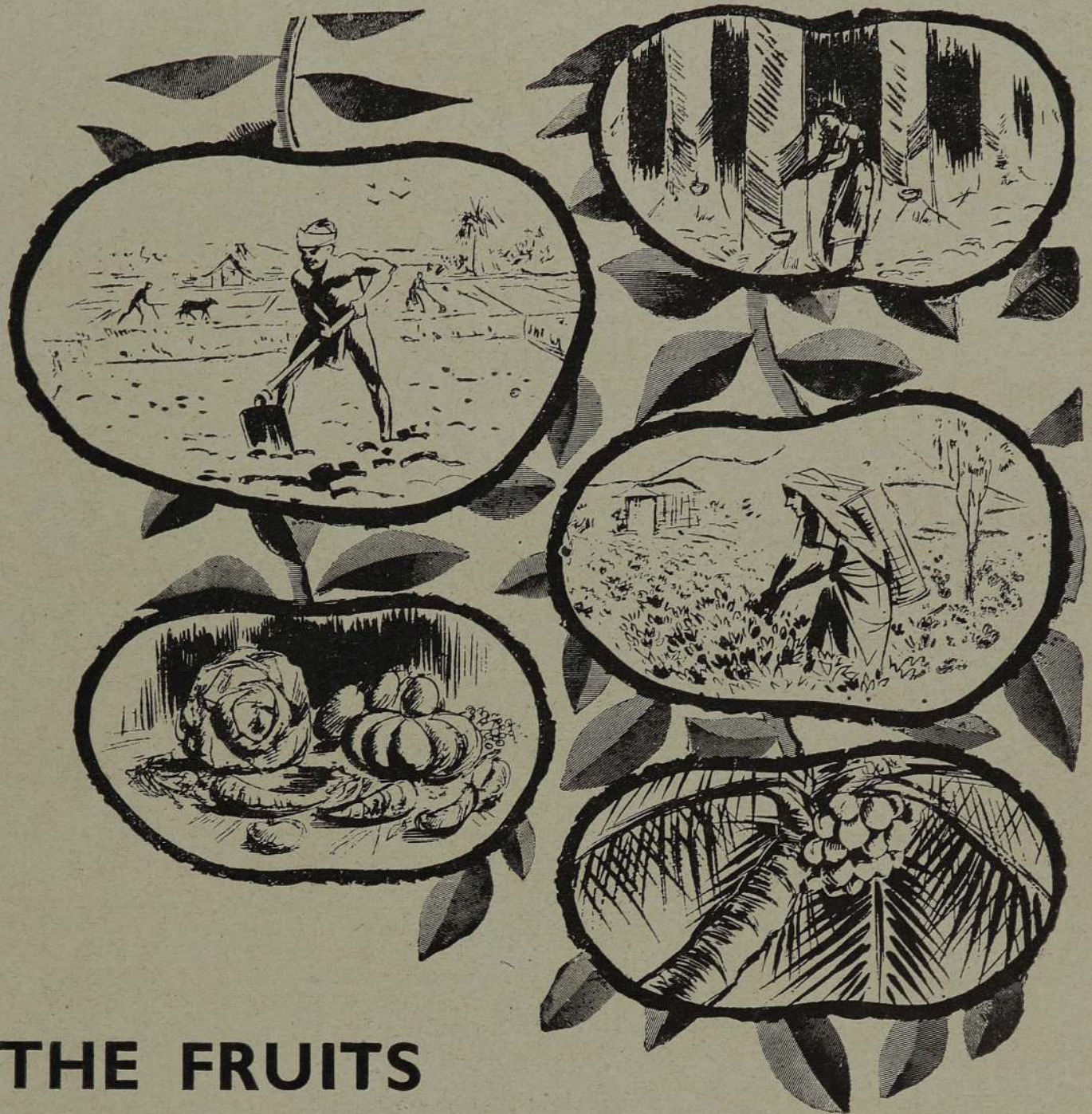


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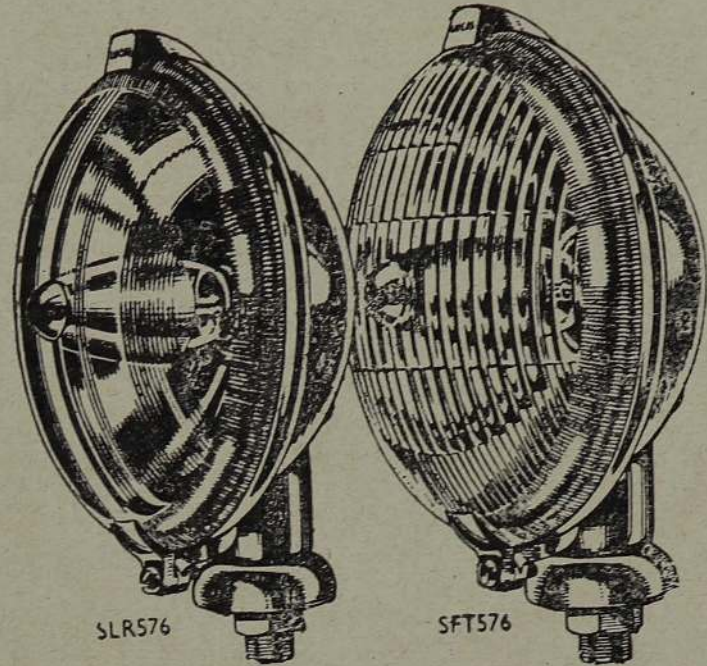
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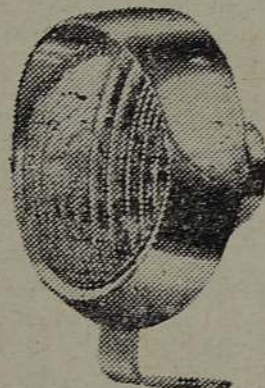
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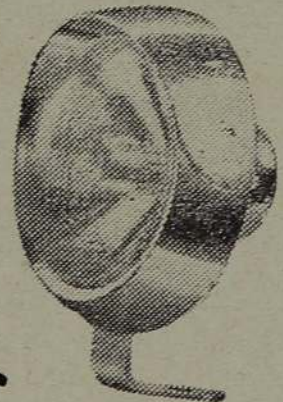
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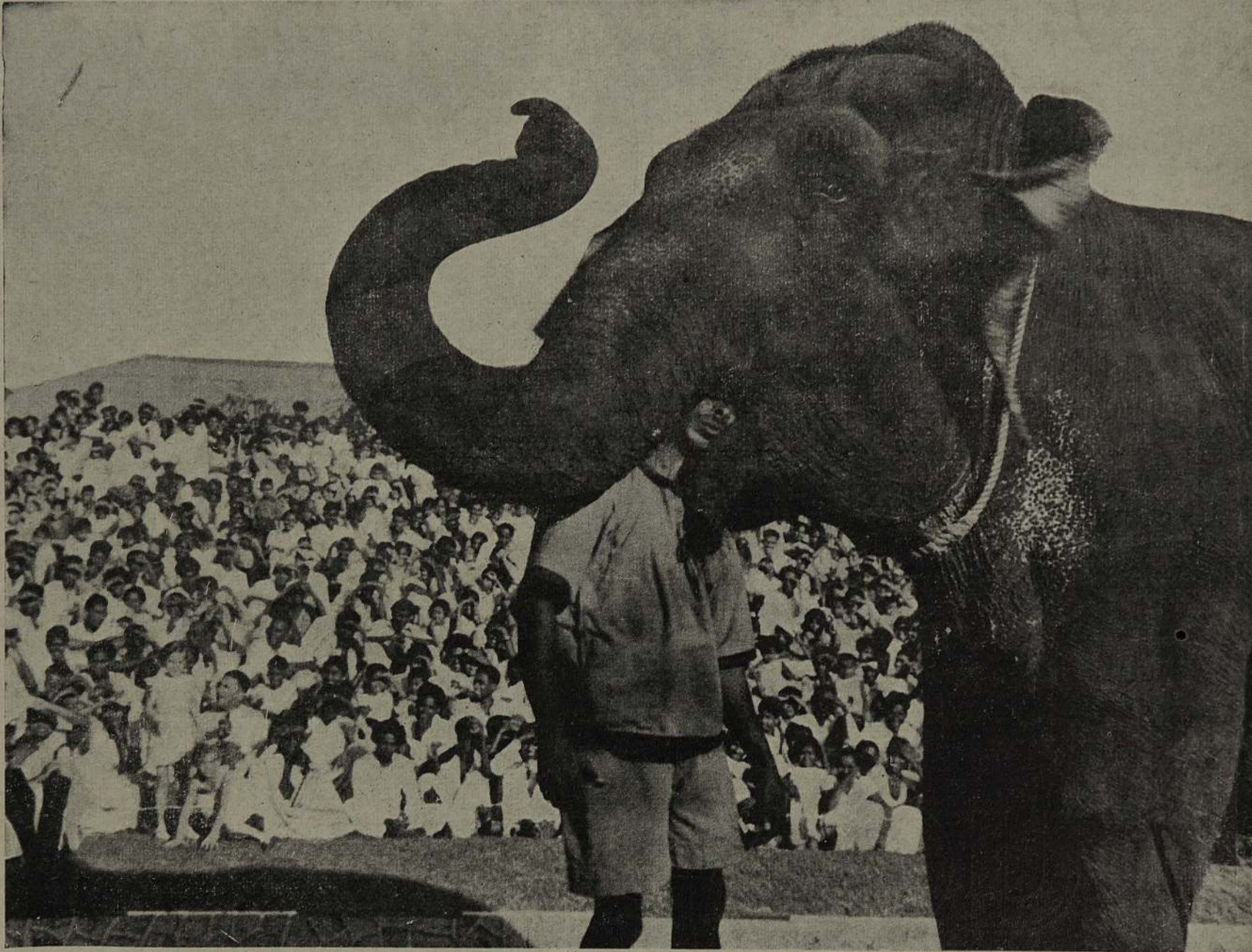
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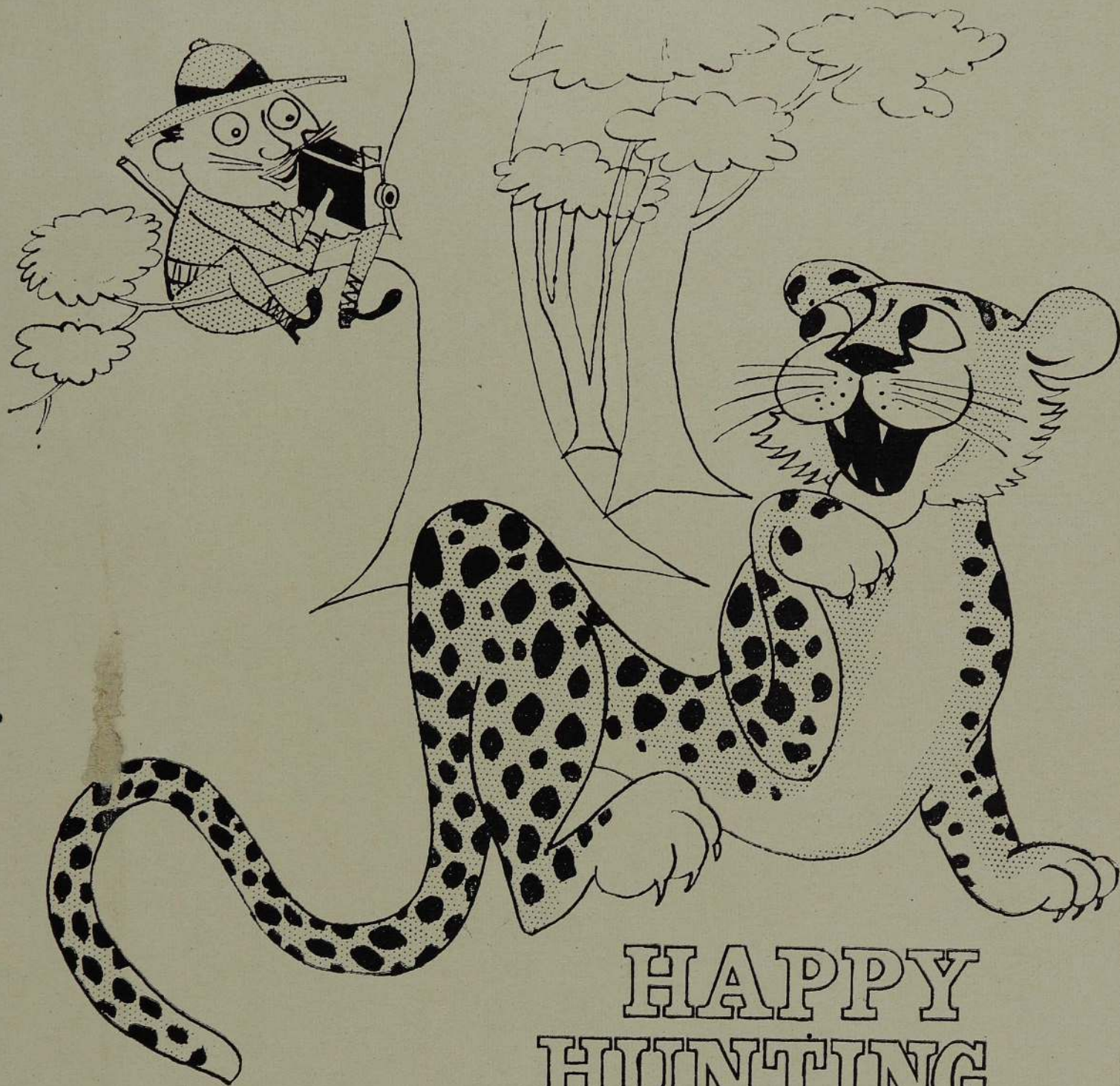
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