

LORIS

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CONTENTS

	Page
SOME OF THE WILD LIFE PROBLEMS OF CEYLON by R. M. Bere, C.M.G. ...	189
POACHER'S PARADISE by A. M. Hettiarachchi ...	197
THE ELEPHANTS IN WESTERN CLASSICS by C. McGaughey... ..	199
THE DEDURU HERD by Alick Jayasekera	206
CAN THIS THING BE?	208
ARE OUR ELEPHANTS DOOMED? by Anuradbapura Correspondent, Ceylon Daily News	209
LIFE AMONG THE VEDDAHS by G. V. P. Samarasinghe	210
FRESH WATER FISHING by Roman W. Szezbonyez, Dr. Sc. (Eng.)	220
UNDERWATER TROPICAL PARADISE by Arthur C. Clarke	227
PEARL FISHERY	228
SEAFORD COCKTAIL by Leander	230
A FISHERMAN'S STORY by A Fisherman's Wife	232
KRUGER by Philip K. Crowe	233
THE "VERYAN" MAGPIE ROBINS by R. C. Wall	237
BIRD WATCHING IN COLOMBO by E. B. Wikramanayake	239
BIRDWATCHING IN COLOMBO AND ON THE BENTOTA RIVER by Valerie Jones	240
MY FIRST TRIP IN THE JUNGLE IN 1891 by T. Y. Wright	242
DO YOU KNOW YOUR BIRDS' NESTS?	244
AMPARAI 40 YEARS AGO by T. Koch Toussaint	246
MAKE YOUR OWN TENT by Leander	248

SNIPS :—

Local

Tragedy at the Kandy Perahera	249
Elephant Run Over by Train	253
Tree-top View of Elephants	254
Illicit Shooting in Drought	254
Snipe	254
Hornets Kill Mother and Child	255
Infant Bitten by Snake	255
Biting the Hand that Fed it	255
Pet Bear Delights Wilpattu Visitors	255
Sanctuary for "Mermaids"?	256
Wild Life Protection Under Sinhalese Kings	256
Gorilla at Zoo	257
That 13-foot Leopard	258

Foreign

The Scandal at Kariba Dam	258
Kariba	260
Scientists "Hunt" Elephants	260
Mallard's Amorous Flight	261
He Battled an Elephant—with a Shirt	261
Bear Hunt to Brush up the Guardsmen	261
Crab Travelled 62 miles in 30 years	262

CORRESPONDENCE :—

Destruction of Pelicans at Vavuniya	262
Frigate-Bird	262
Blue-tailed Bee-eater and other Migrants	262
Sunbird's and Flowerpecker's Nests	263
Do You Know Your Birds' Nests? (Answers)	263

LORIS

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Some of the Wild Life Problems of Ceylon

By R. M. BERE, C.M.G.

Director and Chief Warden of Uganda National Parks

BACKGROUND

I HAVE been paying a private visit to Ceylon as part of my leave and, while there, have managed to see something of the island's wild life and national parks. I have also had various conversations with members of the Department of Wild Life (including Mr. J. A. de Silva, the Warden) as also with Mr. C. E. Norris, President of the Ceylon Wild Life Protection Society, who took me to one of the national parks, Major Weinman, Director of the Colombo Zoo and Dr. Spittel. As a result of all this, I have learnt a little about the wild life, game administration and related problems. It may be of interest to record some aspects of these affairs in this self governing Asian dominion.

Topographically Ceylon is a detached portion of the South Indian peninsula. It divides into two climatic regions, known as the Dry and Wet Zones respectively; the latter occupies approximately the South-Western quarter of the island. By African standards, dry and wet are relative terms and there may be over eighty inches of rain in the Dry Zone. Even so, rainfall tends to be concentrated and long periods without rain occur. The Wet Zone receives rain during both monsoons, the Dry Zone during the North-East monsoon only.

Monsoons sometimes fail and serious droughts are not uncommon.

The hill country (where the best tea is grown) occupies about one-sixth of the island, in the South-Central section. In fact most of it is in the Wet Zone, which comprises nearly all the hills and the coastal belt to their west. To the east the low-lying dry country spreads round the hills to the southern plains. The main faunal division is, thus, between wet hill country and dry plains. As in Africa the dry plains country carries most of the game and it is here that the problems of preservation have to be tackled.

The land area of Ceylon is 25,332 square miles, with a human population of about nine million increasing at the rate of 2.8 per cent per annum, a figure slightly higher than East Africa. There is an advanced and ancient system of irrigation, without which most of the Dry Zone would be uninhabitable. It depends on large man-made dams, or tanks as they are called. Until very recently many of the old tanks were in disrepair and habitation throughout much of the northern half of the island (where there are splendid indications of ancient civilisation) was sparse and concentrated. Amongst several reasons for this was a particularly virulent form of malaria, now brought

under control by spraying. Old tanks have been repaired and new tanks are being made ; so that the empty lands are becoming repopulated at a rapid rate. In the result, room for the game is growing less : an all too familiar picture. The mosquito has played much the same part in game preservation as has the tsetse fly in Africa, making large tracts of game country uninhabitable by human beings.

The most important game animals in Ceylon are the Ceylon Elephants (*Elephas maximus ceylanicus*) buffalo (*Bubalus bubalis*), spotted deer (*Axis axis ceylonensis*), Sambhur (*Cervus unicolor*), barking deer (*Muntiacus muntjak malaboricus*), mouse deer (*Tragulus meminna*), the Ceylon sloth-beer (*Melursus ursinus inornatus*), leopard (*Panthera pardus fusca*) and wild boar (*Sus scrofa cristatus*). There are also monkeys, small mammals and birds (including the magnificent pea fowl (*Pavo cristatus*) of peculiar interest and diversity.

Ceylon is part of the Indian faunal zone, but its separation from the South Indian peninsula has produced a number of individual species and sub-species. Geologically, the hill country and the land to its south, appears to have been severed from the parent continent much earlier than the northern half of the island. A majority of the animal forms peculiar to Ceylon (there are twenty-one such bird *species* alone) are those concentrated in this region. There is a great deal worth preserving.

It is not possible in a paper of this sort to discuss animal numbers or distribution, except in relation to the elephant, a special problem. In his 1956 Annual Report, the Warden of Wild Life Department wrote, "At present there is no plant or animal, except the elephant whose survival is in imminent danger." In view of the rapid development of agriculture in the erstwhile game areas, one must express the hope that this view is not over-optimistic. The history of the hog-deer (*Hyelaphus porcinus*) could be a fateful pointer. This Indian deer may have been indigenous to Ceylon or may have been imported by early Dutch or

Portuguese settlers in the seventeenth century. However this may be, in 1935 W. W. A. Phillips wrote that it is entitled to rank as a Ceylon animal. He added that, although local in their distribution, the hog-deer were fairly numerous within their limited range. In his 1957 report, the Warden mentions that the hog-deer is now probably extinct. Even if the species is relatively unimportant, the interval is only twenty-two years.

THE CEYLON ELEPHANT

The continued existence of wild elephant in Ceylon is a matter of very general conservation interest. It is also the first concern of the Wild Life Department and its most difficult problem. It is not a problem which anyone can look upon with equanimity. There are three main elephant concentrations in the island, in and near the main reserves (using this expression in its widest sense) : Wilpattu in the North-west, Gal-oya in the East and Ruhuna-Yala in the South-west.

I have not got distribution figures, but these are of little importance except to those who have to wrestle with the problem on the ground. As elsewhere, Ceylon elephants wander a good deal, and Mr. Norris is at present organising a systematic study of seasonal distribution, with the help of a team of observers from the Wild Life Protection Society. In the past, there was complete freedom of movement between the main elephant areas and the sparsely inhabited jungle to the North-east, an elephant route two hundred and fifty miles long. Some years ago the opportunity to establish reserves along this route was lost. **The remaining wild elephants of Ceylon seem doomed to be contained in three isolated pockets, making the problem of perpetuation of the race much more acute.**

In 1951 the elephant population of Ceylon was reckoned as one thousand. The breeding rate is between six and seven per cent. The average annual wastage for the years 1951-57 is given as 85, so that there has been a steady loss ; and although the wastage is decreasing it

still seems to be above the natural breeding rate. In 1957, elephant casualties amounted to 74 (the lowest recorded figure) as follows :— Captured on licence 10 ; (including 2 found isolated and sent to the zoo) ; killed in alleged defence of crops 21 ; killed in alleged self-defence 1 ; killed by wanton shooting and gun-shot injuries 19 ; killed by accident 2 ; found dead apparently of natural causes 21. In this particular year, no elephants were proclaimed as rogues, which had to be destroyed. Clearly amongst those found dead there may have been some which died from wounds. Records of natural deaths may have been short for obvious reasons.

For many years now there has been no licensed shooting of elephants and today tuskers are very rare. Tusklessness is known to be a hereditary trait in elephants as also probably the tendency to carry large tusks. Tusks do not increase in size beyond a certain age, and in Ceylon it is reckoned that the systematic killing of large tuskers for the ivory has allowed the tuskless strain to predominate. The tusked males have not been allowed to live long enough to reproduce many of their kind. If this reasoning is correct, it points to a possible future danger amongst African elephants.

It is certainly possible that the wastage could be considerably reduced, if a different system of control could be adopted, a fact which is readily apparent to the Wild Life Department. At present, the department is not responsible for dealing with dangerous or destructive animals. Dangerous elephants are declared rogues by the Government Agent (D.C.) and anyone with a rifle of .375 calibre, or over, may get permission to shoot it. In effect this means a recreational approach to what elsewhere is considered a professional task.

The number of guns and rifles in Ceylon must be enormous ; over forty thousand have been imported during the last ten years. Almost every villager has a firearm and is allowed to use it in defence of crops. In addition, when elephants damage food crops, compensation is

paid, provided the plots are well fenced and watched, the payment being calculated according to shortfall in production. Even so, about £1,000 is paid out annually ; the villagers get it both ways. As the Warden has put it, " That they should have such compensation, as well as the right to destroy the elephant causing it, may not be all that reasonable . . . man is the real intruder."

The Fauna Advisory Committee has recommended the prohibition of shooting in the protection of crops and payment of full compensation based on market values. Meanwhile it will be a long and difficult task to educate the villagers to use more humane methods of crop protection. And it may prove even more difficult to persuade a government to adopt a policy (in defence of elephants) which could prove to be unpopular with the villagers whose votes keep it in power. Incidentally, also, the presence of all these weapons gives an opportunity for widespread poaching of other animals ; this indeed is taking place throughout Ceylon.

Eventually it is inevitable that the wild elephant will have to be contained in the reserves and this will mean that the small population will become split up into three independent groups. The alarming speed of village development in the dry zone means that this position must come about quite soon. The minimum population needed to perpetuate the species is an unknown factor, but clearly **the point of no return cannot be far away.** And this is probably also true of animals other than the elephant.

In this connection, members of the Wild Life Department are much concerned about in-breeding. In fact, the danger here is perhaps not particularly great, as has been shown by, for example, Pere David deer. Meanwhile, the position is aggravated by the fact that the reserves are not really sacrosanct, as will be explained shortly. There is clearly a very real need for a full and detailed ecological study of the wild elephant population of Ceylon and for

this the data presently being collected by the Wild Life Protection Society should prove invaluable. Not only is it necessary to know the number, distribution and movements of the elephants but also the holding capacity of the reserves in terms of other animals as well. No one species can be considered in isolation.

It is probable that outside expert advice will have to be sought, at least to survey the problem and plan the research. It is much hoped that the Government will face up to the cost of this, for it is difficult to see any future for the Ceylon elephant, unless it is done. Local staff could certainly do the detailed work, provided that co-operation of the University of Ceylon could be assured.

Some other points emerge from this discussion and the position could be improved in various relatively minor ways. The wastage could be reduced by making the Wild Life Department responsible for all control of dangerous and marauding animals. At present, elephants which are found isolated are captured and sold or sent to the zoo; marauding elephants are also sometimes dealt with by capture. I know that there are practical difficulties, but the wastage would be further reduced if these captured elephants, when not wanted by the zoo, could be released in one or other of the reserves, instead of being taken out of circulation to add to the already large number of captive elephants.

WILD LIFE ADMINISTRATION

With the exception of one special area, all the reserves, including the national parks, are administered by the Wild Life Department, which also handles other game matters. Until very recently, the department was responsible to the Minister of Lands and Land Development, as also were the Forestry Department and the department responsible for irrigation and village development. The arrangement should have assured that, in land use planning, the wild game lands got equal consideration with more mundane projects. In fact, it did not always work out that way; the Minister only had to persuade himself that, say, an agricultural project was more important than a nature

reserve, for the latter to give way. As the result of a recent Cabinet reshuffle, wild life now comes within the portfolio of the Minister for Commerce and Trade, who is also responsible for tourism. Tourism is certainly not the end-objective of game preservation; but in this present age, it is probably the best means available of producing an economic justification. But tourism must not be allowed to take full charge to the possible detriment of the animals and of intelligent management of the reserves. This is a real danger particularly perhaps where staff is concerned. It is very necessary that game rangers and park wardens should not have to devote too much of their time to the visitors and their interests. Even so, this change is a major advance, particularly as the present Minister (Mr. R. G. Senanayake) is a keen conservationist.

Originally, the preservation of wild life was an incidental function of the Forestry Department. About ten years ago (after self-Government) a separate department was formed. At its head is the Warden, with headquarters in Colombo. The country is divided into five divisions, with a Divisional Game Ranger, responsible for each. Two of the divisions include in the Ranger's most important charge, administration of the national parks. Under the divisional ranger, there is the usual staff of guards, watchmen, etc., and subordinate game rangers. There is now opportunity for promotion to the higher grade of game ranger, previously filled only by direct recruitment. This arrangement is good in principle, although it could prevent, or at least discourage, the entry of first quality recruits: men of sufficient education to understand intricate faunal problems and capable ultimately of filling the senior posts. It is possible also that such an arrangement encourages the use of junior grade staff in position of responsibility, deserving perhaps higher pay than the holder receives. The present staff includes some first class men, possessing both knowledge and ideas. The Warden himself had recently retired from the

position of Chief Conservator of Forests, having been a member of the Forestry service for over twenty-five years.

Except that they have no control duties, members of the department have much the same function and responsibilities as those of African game departments and national parks staff. Game licences (to shoot birds and deer) are issued by the Administration as in Africa. The Government Agents have wide discretionary powers, used under the advice of the Wild Life Department. There is no Board of Trustees, or other comparable body, responsible for administration of the national parks. There is a Fauna and Flora Protection Advisory Committee, but this in no way replaces such a Board. This committee meets about twice a year and discusses important matters of game policy. Its basic function is to advise the Warden, under whose chairmanship it sits. There is no direct impact on the Minister and, of course, no executive powers. In addition to the Warden, members of the committee are: Land Commissioner, Conservator of Forests, Government Analyst, Director of Museums, Professor of Zoology (University of Ceylon), two representatives of the Wild Life Protection Society, one each of the Natural History Society and the Orchid Society, and one member nominated by the Minister.

The Wild Life Protection Society (established 1894) is probably more important than this committee of ex-officio members and more effective. It has about a thousand members of all races, with Ceylonese in the great majority. Many are persons of distinction and substance; they include members of the Senate. A formidable body of opinion can be brought to bear, when needed. In the last resort it is political pressure that counts.

THE RESERVES

In addition to the *Sanctuaries*, there are three types of reserves, Strict Natural Reserves, Intermediate Zones and National Parks. Ultimately, the larger game animals will be entirely

contained within them. In the Sanctuaries, all types of human land use and occupation, other than hunting, are permitted. Outside the special development area, there are twenty-two such sanctuaries, covering an area of 314 square miles. The objective is not so much game preservation as protection of the lesser mammals, birds and their breeding grounds. Most of the large tanks, and their surrounds are sanctuaries and their protective function in relation to Ceylon's splendid collection of water birds is indeed a valuable one. Most of the more important historical sites, the remains of an ancient Buddhist civilisation, have also been so declared, as indeed is only fitting. Buddhism, the religion of three-quarters of the inhabitants of Ceylon, extends the qualities of human kindness and mercy to the animals. Regretably a large section of the population prefers its own interpretation.

The *Strict Natural Reserves* are left completely undisturbed, so far as that is possible. Entry is prohibited, except under special permit or for purposes of research. The present area of Strict Natural Reserve is 234.4 square miles, but of this 112.5 square miles (Wasmamuwa) is due for excision, for it is of little interest and has been poached out of existence. Of the balance, there are two small, but important, reserves which are principally of flora interest, Hakgala and Ritigala. This leaves the Yala Strict Natural Reserve (111.6 square miles) valuable game country adjoining the Ruhuna National Park.

This area, with about 40 square miles of beautiful park land which has recently been included in the park, was originally closed over fifty years ago, with the idea of making it a reservoir for the adjoining shooting blocks. It was declared Strict Natural Reserve during the middle thirties. Although the game rangers are now systematically exploring the area, no research was carried out at the time of closure, and no study made of the animal populations and plant communities. The opportunity, therefore, of observing the effect of excluding

man from a substantial stretch of tropical game country over this long period of time, has been lost. The present authorities are fully conscious of the need for, and importance of, research. The failure took place twenty-five years ago when a strict nature reserve was declared and nothing done about it. Meanwhile, some thought is being given to the possibility of reserving the Horton plains, a unique stretch of high stunted forest country (7,000 feet) with a remarkable collection of birds and lesser mammals, including many of the species peculiar to Ceylon.

The Intermediate Zones are the equivalent of the controlled hunting areas of Africa and are for the most part adjacent to the national parks and strict reserves; thus they serve as buffer zones. Restricted hunting is allowed in the open season (October to April) and entry to each zone is limited to a specified number of parties at a time. In fact, an increasing number of those that enter these zones now hunt with camera rather than rifles, a healthy sign of the time. The Ranger responsible for the two Yala Intermediate Zones (226.3 square miles) told me that only forty deer had been shot throughout the 1958/59 season. There are no facilities, so that all parties have to camp.

The present area of the Intermediate Zones is 487.2 square miles but of this 139.5 are scheduled for early exsion. These are two blocks required for village development and irrigation which, in any case, no longer carry any appreciable quantity of game. The Yala Intermediate Zones just mentioned adjoin the Ruhuna National Park and Yala Strict Natural Reserve. The two remaining Intermediate Zones, Wilpattu South and East (jointly 121.4 square miles) adjoin the Wilpattu National Park.

The National Parks are open for public access to the maximum extent possible. They are well supplied with tracks and there are two bungalows in each park. The bungalows are fully equipped and furnished; but visitors have to take their own food and bedding. Accommodation is

limited to one party at a time (up to eight persons) and, except for the excellent Maradanmaduwa bungalow in Wilpattu, is rather out of date. The Tourist Board is about to build a new bungalow just outside the Ruhuna Park and near the sea (excellent bathing), following the pattern of the African Safari Lodges with their cottages.

In addition to this bungalow accommodation, aluminium huts are available at a nominal charge, chiefly for large parties such as school children. The number of persons visiting the parks is increasing rapidly and that this should be so is of vital value to the future of the island's wild life; to succeed, preservation must command public support. At present many of these parties, simply drive into the park for a picnic and then drive out again, paying little attention to the game; and one fears that rather a lot of mess is sometime left behind. The need to make visits to the national parks of educative and instructional value is appreciated, but there has not yet been much opportunity to develop this important side of the work.

These two national parks, Ruhuna (91.2 square miles) and Wilpattu (212 square miles) were originally declared (about 1906) as Resident Sportsmen's Reserve, administered by the Wild Life Society as hunting blocks for its members. The older bungalows, in fact, were built simply as hunting boxes. These reserves were re-established as national parks in 1935, although Government, through the Forestry Department, took over control from the society in the nineteen twenties. The national parks were declared without special legislation, but simply by notice under the Flora and Fauna Ordinance: another typical failure of the period for they lack any permanent charter in their creation. Well protected on three sides, by the Intermediate Zones, Ruhuna is threatened with an artillery range along its western border. The target area includes part of the regular migration route of a number of elephants and one of the few permanent water points in the area. The importance of adequate buffer zones

is now well understood, if seldom achieved. Additional to the two parks, a new area of good game country, already partially opened up, will shortly be declared a national park. This is the Barons Cap Proposed Reserve (218.4 square miles) on the East coast.

As well as Ruhuna and Wilpattu is the Gal Oya National Park, which is not as yet administered by the Wild Life Department. A special Development Board is developing the Gal Oya area, of about 700 square miles in the Eastern part of Ceylon, the objective being irrigation, rice and sugar planting and resettlement generally. Of the land under the Board's control 98.4 square miles is being developed as a national park and, of the balance, 416 square miles have been declared as Sanctuaries. When development is complete, the Board's operations will close down and the national park will come under Wild Life Department administration. In the meanwhile, the Warden sits on the Managing Committee to assure conformity with general wild life policy. While there are certain obvious weaknesses in having one national park under independent administration, *it is an act of extreme enlightenment (which could well be copied elsewhere) to create a national park as an integral part of a high pressure development area.* Unfortunately, I had no opportunity to visit Gal Oya.

If we include Barons Cap, these reserves amount to fractionally less than 4% of the land area of Ceylon. This figure is by no means unreasonable, particularly when the extensive sanctuaries are also taken into account. In the Ruhuna-Yala region there is a classical picture of planned reservation, with strict nature reserve, national park and limited shooting areas in a single unit of 429.1 square miles. Similarly the national park and intermediate zones of Wilpattu cover 333.4 square miles. There is a chance, perhaps remote, of adding about two hundred square miles of uninhabited game country to the Ruhuna-Yala group and, if this could be achieved, it would be worth while to accept the loss of other areas elsewhere. Clearly

all three types of reserve are an integral part of the conservation picture and should control of animal numbers become a necessity in the future, the intermediate zones could be used without offending any principles or susceptibilities.

By African standards these areas may seem small, but it is probable that the carrying capacity of the game lands is higher in Ceylon. What this actually is, is a matter that needs careful investigation. Rainfall is over sixty inches and there is much heavily wooded country providing almost unlimited browse and fruit. The commonest ungulate, the spotted deer, both grazes and browses. Even so, there are some signs of early overgrazing, particularly near those tanks that contain permanent water. And there are one or two indications of scrub and thorn bush overtaking grass. There is a very clear need for some careful research into animal population and population trends, as well as vegetation change.

Spotted deer must number many thousands throughout these areas and in Ruhuna, in particular, there are several hundred buffalo. The number of wild pigs is large (I counted one sounder of twenty-seven) but sambhur are entirely forest browsers difficult to estimate. Of predators there are only two of importance, the leopard and the Ceylon jackal (*Canis aureus lanka*). Leopard are present in considerable numbers (I saw five in five days) and are reckoned to account for about fifty deer each per year, so that they can probably keep the spotted deer population in check, but a population estimate of both would be useful. Under certain circumstances jackals take to hunting in packs and this has been happening recently in Yala. On balance the effect is probably beneficial and a natural reaction to the high ungulate population, even if some people may find it distressing. All these factors are inter-related to the elephant problem, discussed earlier.

It is a general, though not doctrinal, principle that there should be as little interference with

nature as possible. In the parks, however, some bush clearing is permitted to give visitors an open view to certain tanks and to provide clear vistas. This is probably all to the good, provided that the cut trees and bush are cleared away or burnt (which is not always done), as is the incidental result of encouraging the growth of grass rather than scrub. But over much clearing near the tanks could be harmful, robbing elephants of the shade they so enjoy near water.

The other positive act of interference (and it is very much more important) is the augmentation of water supplies for the welfare of animals by building new tanks and improving old. Such works are given priority and in a country like Ceylon, with its peculiar rainfall distribution, are probably very necessary. This is particularly so perhaps as few of the dry weather jungle pools are really natural, having been made by human hands long years ago. However, there is a definite natural relationship between grazing (and browse), water supply and animal populations. Elsewhere it has come about that the provision of man-made water supplies has allowed animal population to expand abnormally, the result being increasing pressure upon the available food supply, particularly grass. This, in turn, means that the animals cannot get enough to eat and the resulting starvation is infinitely worse than a seasonal lack of water, to which most animals (but not elephant, buffalo and sambhur) can easily adjust themselves. This is not meant to suggest that this will necessarily be the result in Ceylon, but the best way of dealing with such problems is exercising the minds of national park authorities, the world over.

The single most important factor in the wild life administration of Ceylon seems to me to be the lack of permanence in the contribution of the reserves. Some of the changes presently taking place have been mentioned. *The point is that the boundaries of these reserves are not sacrosanct and can be changed by simple ministerial order; this remains true even with the change of Ministries*

mentioned at the beginning of this paper. If two ministers agree (or possibly if a Prime Minister directs), it is still possible for part of a national park or strict nature reserve to be developed for, say, human settlement. Parliamentary process is not required and there is no independent body, such as a Board of Trustees empowered by law to guard the interests of the game areas and, if needs must, argue the case with the Government. No head of a department is in the position to do this. In this respect, though certainly not in practical administration, the Ceylon National Parks fall below the standards of the London Convention of 1933.

While this is not a point that I have been able to discuss with any responsible official in the Ministry, I understand that the Ceylon Government is opposed to the idea of a Board of Trustees, unless financially independent; and wild life preservation must always be a public service, largely financed from public funds. There does not seem to be the same objection to a public corporation, which could act in much the same way. *The answer would thus seem to be that a Ceylon Wild Life Corporation should be legally established and empowered to exercise control over all the reserves, including intermediate zones. The point is that some such body or National Trust be established and it does not much matter what it is called. Ultimately, most conservationists hope that the world's game areas, in all subscribing countries, will be brought under the control of an international authority.*

This paper has been written chiefly for people who do not know Ceylon and the intention has been to make it reasonably objective. A few criticisms have been made, and a few suggestions as to the way I feel that certain problems should be approached. I have not included any formal recommendation and it would be out of place to make these; nor have I made any specific suggestions for developing and improving the amenities of the national parks. As this paper will be read by a few interested persons in Ceylon, it is to be hoped that they will understand and appreciate this approach.

I cannot end without expressing my very sincere thanks for the kindness and hospitality that I have received from those concerned with wild life administration, both within and without the national parks. Coming to Ceylon simply as a private visitor, I was given every

possible help and would particularly mention Mr. de Silva, the Warden, Mr. Packeer, Assistant Warden, Mr. Norris, President of the Wild Life Protection Society and the several Divisional Game Rangers with whom I went out in the parks.

POACHER'S PARADISE

By A. M. HETTIARACHCHI
Observer, September, 1959.

DURING the months of August and September, the Parangi Aru dries up leaving patches of shallow water in its bed. Then the poachers come in their dozens and camp under the shade of the large Kumbuk trees to begin their fell work of systematically slaughtering deer, sambhur, pig and also leopard.

The Parangi Aru probably got its name during the time of the Dutch and the Portuguese invasions. It originates at Mamaduwa in the Vavuniya district crosses the Anuradhapura-Jaffna main routes and is joined close to the Eastern border of the Melkulam Intermediate Zone (now only in name an intermediate zone) reaching the sea on the Western sea-board about 20 miles north of Mantota, which had been a flourishing town even during pre-Vijayan times. The area about Mundurippu, Panankamam, Attimoddai, Pallamadu and Iranai-Illupalkulam is as yet unexplored jungle abounding in wild life, including the migratory birds which seasonally come over the North Western Coast.

The poachers come from the peninsula in cars to places like Pankaman, Mundunurippu and walk the few miles through jungle to reach the "shooting grounds" on the banks of the Parangi Aru. Under the large Kumbuk trees on its banks the poachers improvise shelters and erect "messas" for drying the meat.

Cartridges, flashlights and batteries are regularly supplied by the "directors of the poaching business" from Jaffna. Large numbers of spotted deer, sambhur and pig are shot in the

fine shooting grounds particularly on western side of the Parangi Aru and also in the Melkulam Intermediate Zone. This flesh is dried over fires lit under the "messas" and the meat transported by headload to cars at prearranged rendezvous, from where it is transported to the Peninsula chiefly.

During the last Madhu festival, Wild Life Department Officers had surprised some men drying meat and seized about 250 pounds of venison. The Wild Life Department Officers had come upon several improvised encampments and also several hundredweights of bones of wild animals stacked ready to be transported to be sold for use in turning out manure, etc.

They had even found lime trees which had been planted and watered by the poachers. The flesh of the spotted deer, the sambhur and the buffalo is usually dried, while the flesh of the wild boar is salted. In the Jaffna area particularly the flesh of the wild boar is prepared into a delicacy in the preparation of which the Northerners excel and this has a ready market. A pound of dried meat fetches as much as Rs. 1.50 in the Peninsula, and it is now known that this meat trade is being conducted on a highly organised and commercial scale.

The leopard is shot for its pelt, which fetches about Rs. 150 for a fair sized one. The shooting is done mostly by night with the aid of flashlights and the jungle area round about for miles keeps on resounding with gunshots. One of the men who had been on these hunting expedi-

tions regularly told me that on one occasion he and a companion who were lying in wait at a "water-hole" in the bed of the Parangi Aru, shot at a sambhur which had come to drink. While the sambhur was struggling in its agony, the doe leapt over her fatally injured mate and started to drink. With another shot the men had ended the life of the doe too and also ended her attempts to quench her thirst.

With the spotted deer it is very much easier. They come in herds for water. All that a poacher sitting in a hideout has to do is to lie perfectly still, till the "scout" of the herd gives the "all clear" and the herd bunch together at the water-hole to drink. Then if two shots are fired from guns, either from a double barrel or from the guns in the hands of two men, three to five animals could be expected to drop.

It is not uncommon to find a few more seriously injured, lying in the scrub not far away from the water-hole, next morning. Even when going after deer with a flashlight, within a radius of about a quarter mile or so, it is not difficult for a man who knows to "flash a torch" in the jungle to roundup and shoot about five or six deer.

In the Welikanda area in Polonnaruwa district, a friend of mine, on one night shot as many as nine deer within a matter of two hours. This tale cannot be dismissed as a "hunter's tale" as one would a fisherman's tale, because a herd of deer in thick jungle areas are not much disturbed by the sound of gunshots. They rush off a few hundred yards and begin to graze again.

In Tunakai off Mankulam where there are plenty of deer and a fair number of peafowl, between 4 p.m. and 6 p.m. or between 6 a.m. and 10 a.m., deer could be approached to about

fifteen to twenty yards with ease. Peafowl is more difficult although the flesh as well as the feathers and the oil are in good demand.

What could be done to prevent this mass and systematic slaughter of the fauna on the banks of the Parangi Aru and extending north right up to Tunakai? The Wild Life Department is so understaffed that it would be humanly impossible to patrol and arrest this large scale slaughter of fauna.

At Madhu the Wild Life Department personnel consist of one Game Ranger, one Guard and a Watcher. It would be absurd for three men even to go armed, patrolling the Parangi Aru area, particularly by night. Most of the men who do this trade will not be deterred by scruples or qualms of conscience, to shoot down a man, just to get away. Even if a party of three men are shot at when they approach in the direction of the sound of a gunshot at night, and even if one man returns to tell the tale, it is not likely that the culprit or culprits will ever be brought to book.

It is also extremely difficult even for trained men in jungle lore, to approach unnoticed, a man or even an animal, hiding in the jungle at night. The crack of a twig, a low whisper or the careless glow of a cigarette will warn anyone listening of a person's approach. A "show of force" and other activity in the area might help reduce poaching in such jungles.

Squatters have even infiltrated into certain areas in the Melkulam Intermediate Zone, making it even more difficult to prevent poaching. What could be done about all this? Have you any suggestions, reader? Could the Wild Life Committee which held about 18 sittings suggest something?

The Elephant in Western Classics

By C. A. McGAUGHEY

Professor of Veterinary Science, University of Ceylon

THE first people to capture and domesticate elephants were the ancient Indian races; there are manuscripts in Sanskrit dealing with elephants written perhaps more than 2,000 years B.C. Many of these were translated later into Sinhala and these have been printed in book form by Deraniyagala. It is legitimate, therefore, to presume that some hundreds of years B.C. both India and Ceylon had extensive herds of domesticated as well as numerous wild elephants and that both countries exported large numbers to the countries bordering on the Mediterranean. In actual fact, the earliest mention of elephants in the classics is that by Herodotus the Greek historian who was born about 490 B.C. and the elephants which he mentions are those which abounded in that part of North Africa beyond the Pillars of Hercules, that is the country later known as Mauretania and in modern times, Morocco. The first classical author to describe the elephant in any detail was Aristotle the philosopher, the tutor of Alexander the Great who began his meteoric career of conquest by defeating Darius, King of Persia, at the Battle of Arbela 326 B.C. Armandi, a French military historian of the 19th century suggests that Alexander sent to Aristotle the elephants which he captured at the Battle of Arbela; a short time later, Alexander defeated Porus at the Battle of Hydaspis in North India in 327 B.C. and captured many elephants which were brought back to Greece.

Although Alexander, by virtue of his masterly tactics and his disciplined veteran Macedonian soldiers, was able to defeat great armies equipped with elephants of war, his generals were impressed by the use of these huge beasts and decided to employ them. Incidentally, one of his generals, Onesicritus is quoted by a later historian Aelian (5) as reporting that the best elephants for warfare were those from Taprobane (*i.e.*, Ceylon)

as they were bigger, more docile and more courageous in battle than any other race. This opinion was repeated time and again by later historians and travellers and the tale was embellished until it became that Ceylon elephants were acknowledged by other races of elephants to be so superior that homage had to be paid to them whenever they met individuals of other races!

After Alexander's death at the height of his fame, his empire was divided among three of his ambitious generals, Seleucus Nicator, Antigonus and Lagus. From these three men arose three dynasties, the Seleucides of Syria and adjoining countries to the east, the Neomacedonians of Macedonia and other parts of the Balkans, and the Lagides or Ptolemies of Egypt. There were frequent wars between these rival dynasties in all of which elephants were employed in battle in greater or lesser numbers. (Battle of Ipsus 301 B.C. between Antigonus and Nicator Seleucus; the Battle between the Galatians and Antiochus Soter 275 B.C.; the Battle of Raphia 217 B.C. between Antiochus the Third of Syria and Ptolemy Philopater of Egypt, and many others.

In fact, the period from the death of Alexander the Great 323 B.C. to the Battle of Thapsus 47 B.C. when Julius Caesar defeated Pompey and his allies, may be called the "Military era of elephants". When Julius Caesar overcame his great rival who was allied with the African prince Juba, he demonstrated that an able general in command of disciplined troops had nothing to fear from elephants. On the contrary, history had shown that in many battles, elephants had panicked and had done more damage to their own army than to the enemy. The most famous example of such a disaster was the Battle of Beneventum 275 B.C., where the Romans finally defeated Pyrrhus, King of Epirus. In his first clash with the



Fol 210

Jacob Petrus Sculptor Effurij

Elephants in Combat

Romans at the Battle of Heracleum, his elephants of war had terrified the Roman soldiers who had never seen such animals; in his second battle at Aesculum, the Romans had boldly attacked the elephants; both sides had great losses but in the third battle (Beneventum) the Romans terrified the elephants with flaming

arrows and firebrands. The great beasts screaming with pain and rage turned tail and trampled down many of Pyrrhus' soldiers.

The Battle of Raphia 217 B.C. between Antiochus the Third of Syria and Ptolemy Philopater of Egypt is interesting because it was the only instance where Asian elephants

clashed with African elephants. In that affray, the Asian elephants proved to be much stronger and more valiant than their African cousins; nevertheless, Antiochus lost the battle by pursuing a portion of the fleeing Egyptian army and exposing his leaderless force to a charge of the Egyptian cavalry.

The Seleucid dynasty of Syria had maintained contact with the powerful Kings of North India ever since their founder, Seleucus Nicator had married the daughter of the mighty prince, Chandragupta, King of the Gangarides. It is recorded that this king had no less than 9,000 elephants and that he presented 500 to Nicator



Tab. 117.

Jacob Petrus a Sculptor Engraver

Elephants used as Executioners of Criminals, Prisoners, etc.

as a wedding gift. Thus the Seleucid kings were able to get replacements of Indian elephants for many years.

The Ptolemies of Egypt, on the other hand, were unable to get Asian elephants by overland routes and as they had to maintain an army powerful enough to withstand the Syrians, their founder Ptolemy Soter conceived the idea, firstly, of trapping African elephants and training them for war and, secondly, of establishing ports on the Red Sea from which his merchant ships could sail to India.

His son, Ptolemy Philadelphus personally directed these two projects, both of which were great successes. The Egyptian expeditionary forces travelled down the inhospitable shores of the Red Sea from Egypt and made friends with the aboriginal inhabitants then known as Troglodytes or Cavemen. These aboriginals killed elephants by leaping on them and hamstringing them with knives. It is more than likely that Ptolemy had in his employ Indian elephant trappers and trainers as there is no evidence that the tribesmen of Africa ever had the ability to capture elephants and train them. Most of the elephants were captured in the hinterland of Ethiopia (Abyssinia), brought down to the new ports and transported on stout barges up the Red Sea to the town now called Suez, and then walked to Alexandria.

It may also be mentioned here that Ptolemy's ships sailed down the East coast of Africa as far as Mozambique and Zanzibar, trading with the people there and bringing back gold dust and slaves. Some ships also sailed into the Indian ocean and across to Malabar on the West coast of India, taking iron and steel goods, clothes, silver and copper ware, and large amounts of gold and silver coins, and bringing back silks, spices, perfumes, muslin, furs, hides and possibly a few Asian elephants. This maritime trade was maintained after Rome had conquered Egypt and in fact was the route of commerce with South-east Asia pursued in later centuries by the Venetians and Genoese. When the Portuguese explorer, Vasco

da Gama, discovered the route to India round the Cape of Good Hope, trade with the East became the monopoly at first of the Portuguese, later of the Dutch, then of the British and French.

Ptolemy's ships almost certainly visited Ceylon and after calling at Galle sailed round into the Bay of Bengal and up to Palibothra on the banks of the Ganges.

Meanwhile, a powerful nation in the North West of Africa, although separated by great deserts from Egypt was viewing the rise of the powerful Ptolemy dynasty with concern. The Carthaginians were already a flourishing maritime power in the time of Alexander the Great: they were great sailors but had to depend on mercenaries for an army. In capturing and training elephants, therefore, they followed the example of the Ptolemies obtaining their supplies in the country known as Mauretania now known as Morocco. These Mauretanian elephants were a comparatively small race of *Loxodonta Africana*, the African elephant, and they became extinct possibly about 300 A.D. This explains why it may be puzzling to read in the writings of Roman historians that the African elephants were smaller than those of Pyrrhus and of the Syrians, *i.e.* Asian elephant. Evidently the Romans had not seen the giant elephants of Central Africa. The Carthaginians used elephants in their wars against the Romans with varying success. They were at first very valuable in the war in Spain, they were a failure in Sicily and despite the fact that Hannibal's invasion of Italy over the Alps from the South of France is famous because of his force of elephants, it must be remembered that all except one of his elephants perished in the snow-clad icy mountains. This single survivor was used by Hannibal as a mount when he crossed the Marsh of Etruria.

When Rome eventually subdued Carthage after a long and bitter struggle, one of the terms of the treaty imposed on the Carthaginians was that they must destroy all their elephants of war. Historians record the bitter

grief of the Cathaginians and of how they lamented their trained animals calling on them by their names. The Romans had no interest in the use of elephants other than as objects of amusement in the arenas of Rome. The reasons given for this lack of interest are varied; Armandi suggests that the Romans disdained to adopt a method of warfare devised by other races. It is more likely that they considered

the war elephant more trouble than he was worth. When they captured the elephants of Pyrrhus and later elephants of the Carthaginians in the Punic War, they paraded the captive animals, loaded with chains and then led them into the arena allowing anyone to hurl javelins at them and to hack them with swords.

During the times of the Roman Emperors, it became the fashion to indulge in gigantic



Tab. 10.

Jacob Petrus Sculptit Effretti.

Illustrating an old legend related by various authors (Pliny, Plutarch, Aelian) of an elephant which fell in love with a lady. He presented her with flowers and fruit and tried to caress her with his trunk.

displays of the brutal slaughtering of innumerable wild beasts including elephants. Huge numbers of animals such as lions, tigers, panthers, wolves, bears, were captured and brought to Rome for the pleasure of the licentious Court and the brutal mob. Even inoffensive giraffes, antelopes and deer were not spared.

The spectacles of this mass slaughtering was also seen in the times of the later Caesars in Constantinople but eventually they were superseded by chariot racing about the 5th century A.D. The elephant became an unknown animal to Europe, one specimen was sent to the Emperor Charlemagne by the Caliph of Baghdad, Haroun-al-Raschid in the year 801 A.D. The next record we find is of one brought to Italy from Palestine by Frederic the Second in 1229; a few years later Louis the Ninth, King of France, when he returned from the Crusade in Syria brought an elephant as a present for Henry the Third of England. In later centuries, captive elephants were seldom seen in Europe and became only fairly familiar objects when the wealthier countries began to establish Zoological Gardens.

As European travellers began to explore the unknown areas of Africa and the mysterious countries of the East, more and more references to the elephant began to appear. Old legends about the habits and longevity of the giant animal were revived and some absurd statements were made by 18th and 19th century writers especially when these writers speculated on the mode of mating and the period of gestation. The astounding fact is that these writers of fancy ignored the very accurate observations of Aristotle on these points. During the past 80 years the anatomy of the elephant, both Asian and African, especially of the foetal elephant has been fairly completely studied, and also the paleontology by such authorities as Osborn, Watson and Deraniyagala.

Some physiological studies of menagerie elephants in America have been published by Benedict and a fair amount of information on the diseases of elephants has been compiled by

a number of British Veterinary Surgeons such as Steel (1885), Slymn (1844), Hepburn (1918) and Evans (1901, 1910), all of whom worked in India or in Burma. A curious compilation written in Latin was published in 1723 by Hartenfels of the University of Mainz in Germany. It gathers up all the references to elephants in Greek and Latin literature and adds many of the legends of the middle ages and Renaissance period.

A very detailed account of the history of elephants in warfare from the days of Alexander the Great to 18th century wars in India was published in French by Armandi (1843).

Out of the welter of historical writings there emerges one outstanding fact, viz., that Ceylon was famous for its elephants as long ago as 36 B.C. This opinion must have been expressed by the great Kings of ancient India, the great Kings of Persia, the famous generals of Alexander, the Ptolemies of Egypt and their explorers and merchants, the immortal historians of Greece and Rome, the hardy explorers of the Portuguese and the Dutch.

It is a tragedy that this noble animal so well known in history is doomed to extinction within a few years unless the most energetic measures for its preservation are taken.

Naturalists and Zoologists lament the extinction of the Great Auk, the Dodo, the Giant Elk and many other species. They congratulate themselves on the saving of the bison, the auroch, Pere David's antelope, and on the timely preservation of the fauna of Africa. Recently we saw the heroic and successful efforts of animal lovers in South Africa to save some very commonplace animals from being drowned when a new dam was constructed.

But here in Ceylon we are complacently watching the merciless slaughter

of the remnants of the once mighty and historic race of the greatest land animal. Almost every day we read in newspapers of the insensate slaughter by villagers of elephants guilty only of raiding a few vegetable plots. How many are killed in the depths of the jungle, no one knows, but it is safe to say that within a few years the great elephant of Ceylon will exist no more.

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The Deduru Herd

EXTERMINATION, CAPTURE, OR SANCTUARY FOR THESE ELEPHANTS ?

By ALICK JAYASEKERA
Divisional Revenue Officer of Chilaw

It is his day to day job, to follow the movements and activities of this herd of elephants and to arrange to save them from destruction.

THE forests east of Chilaw town were once connected with the Wilpattu Reserve and were also linked with the elephant jungles of Kurunegala. Elephants trekked every year to the waters of the Deduru Oya during droughts, and went back to their normal stamping grounds when the rains came. With the passing of time Government plantation schemes were put into operation and the forests north of the Deduru were opened up. Other sections around Munnessaram and Rambepitiya were cleared and planted with the ever-advancing coconut. Year by year the elephant migrations became more and more difficult.

About four years ago a herd of about eighteen wandered into the forests south of the Deduru. They stayed put there because their path back was blocked.

On the north were the new "middle class" lands, planted with coconut and fenced with barbed wire. On the west was Chilaw town with its fringe of populated villages. South—there was no chance going that way because this area had long been planted and civilized.

The only escape lay to the east. But even here they had to cross at least one coconut estate.

Year by year little patches of a few acres each were denuded of trees, burnt, and cultivated. The plantation belt round the elephants grew tighter and tighter. The food of the forests was in scattered extents and the herd had to cross plantations to reach it. They stamped down fences and ravaged small chenas. During the drought they destroyed young coconut plants and trampled paddy fields into a muddy mess in their determined advance to the waters of the Deduru.

The herd split by two. One fed by day and the other by night. But every day every one

of them had to soak for a few hours in the water of the Deduru. And in their quest for food and water the elephants sought the nearest route.

The result was inevitable. Villagers began to lie in wait at night and shoot at the elephants. Sometimes a lucky shot killed an animal outright. More often the elephant rushed away with a full load of S.G. in its body and suffered for months with gangrenous wounds before it died. In the meantime it had been shot at again and again and its body was covered with festering sores.

It was very, very lucky for everyone that not one of these pain-crazed animals turned rogue before it died.

TWELVE LEFT

By February this year the herd had been reduced to thirteen. Then another animal was shot dead that month. It was a very clever shot, made by a very bold marksman, even though he had done his shooting by torch-light.

He had used a 12-bore single-barrelled shotgun with a ball cartridge. He had lain hidden in the illuk only thirty feet away when he fired just as the elephant turned its head away from the glare of the torch-light. It was a clean temporal shot, fired standing, the trajectory at the point of entry being about eight degrees with the surface of the head where the ball struck home. Footprints showed that the animal had staggered only three steps before it fell down dead.

It was a "baby" about seven feet in height and about fifteen years old. Apparently it had been alone because there was no sign of others. It had been making for the corridor that led to the river.

The present position is that there are about twelve elephants trapped in the area and roaming the forests of Munnessaram, Rambepitiya,

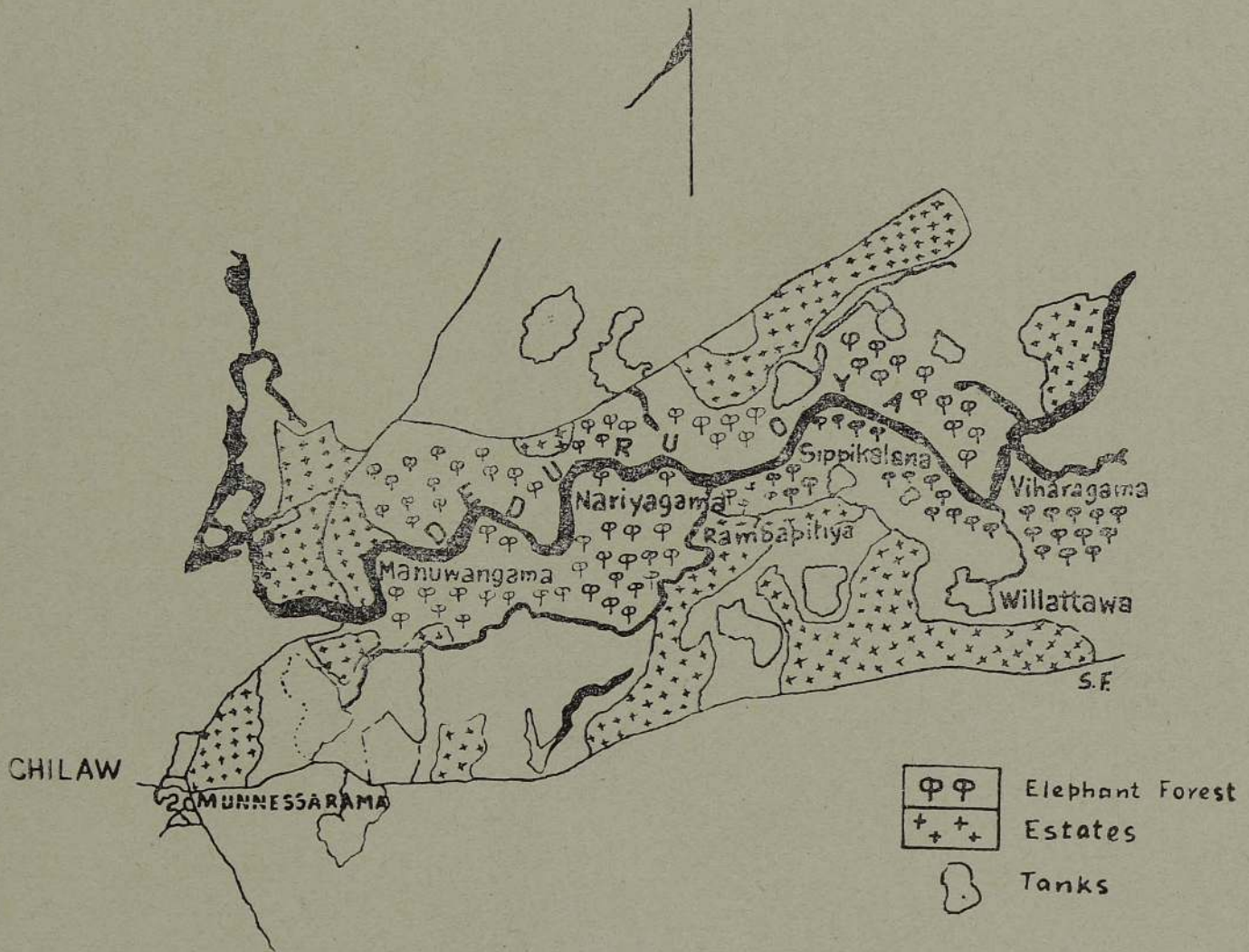
Nariyagama, Sippikalana and Vilattawa, and signs indicate that there are babies among them. They are doomed to extermination unless they are led to some sanctuary where they can live unmolested.

FOUR COURSES

There are four courses of action. One is to shoot the lot or leave them alone until the villagers' guns maim them so much that they rot

because the people who took charge of them knew nothing about the care and handling of captured elephants. A "kraal" will have to be sponsored by some responsible body like the Wild Life Protection Society. The area where this herd roams is so restricted that a "kraal" here will prove the cheapest ever.

The third is a stop gap and involves killing. This herd is peaceful at heart. It asks only to be allowed to live peacefully. You can see it



to death. This is the advice of theorists, who pose as experts even though they have seen "wild" elephants in their natural habitat only at Yala.

The second is to capture all the animals whose age and habit indicate that they can be trained to domesticity and an useful life. The others, of course, will have to be left to their fate. But there is a valid argument against capture. Elephants that were noosed on permits a few years ago died horrible deaths from infected wounds

wallowing happily in Deduru any evening during the dry season, and you can approach it without fear. Among the herd however are three renegades. One of them forages alone while the other two run together. It is these three that first break fences and destroy plantations. They are not popular with the herd: they are barely tolerated. But the herd does follow at some time when it sees easy food beyond broken fences.

The proposal is to proclaim these three animals and have them destroyed. It is possible that the existing forests will provide enough fodder for the then depleted herd. The forests must go in time of course . . .

The fourth proposal is, of course, the best if the operation can be executed successfully. There is still the jungle link with the Viharegama Forest in Kurunegala District. The herd can be driven along the Deduru jungles crossing the easy fords where necessary, and sent into the elephant forests of Kurunegala. Perhaps they came from there originally in which case they would be easy to drive.

This is, of course a big operation. It involves the night and day efforts of about fifty beaters and their kapu-ralas working over about a fortnight. It is fraught with hazards because the herd may take it into its head to wheel or charge at any time. The chances of success or failure

are equally balanced. But it is worth trying.

Presently there are very many people interested. Provincial administrators want to save the plantations and the elephants. The Wild Life Department wants to save the elephants and the plantations. The Wild Life Protection Society wants to save the elephants and it is deeply concerned.

Elephants are a national heritage. This heritage must not be frittered away if it can be conserved. Neither labour nor expense should be allowed to stand in the way.

The Wild Life Protection Society met last week at Kurunegala. One of the problems before it was how to save this Deduru herd of elephants.

Daily News.

July 30th, 1959.

Can This Thing Be ?



This poor beast was brought by truck to Colombo soon after capture. It arrived in an injured, exhausted, moribund condition, and died shortly after being unloaded.

Are our Elephants Doomed?

By Anuradhapura Correspondent, Ceylon Daily News, 12.8.59

EVERY week, at least one elephant is seriously injured or shot dead in the North Central Province. Every night several hundreds of chena watchers shoot at elephants with muzzle-loaders and smooth bore guns. Some of these elephants receive mortal injuries and withdraw into the jungle to die a few hours later, or maybe days, weeks or even months afterwards. Sometimes poachers hunting on tank beds in lonely village areas meet elephants accidentally, and through sheer fright shoot at them quite often injuring them.

Such instances of elephants shot in this manner and dying are rarely ever heard of. In some areas in the N.C.P. and also in the Batticaloa District, if a tusker is seen, he is tracked and shot down and the tusks stolen.

How many elephants there are in the N.C.P. or for that matter in the entire Island, is anyone's guess. Major Forbes, in his "Eleven Years in Ceylon" between 1820 and 1830, spoke of elephants being found within 25 miles of Colombo. He mentions that in 1837 a party of four Europeans killed 106 elephants in three days. Later, a Major Rogers had boasted that he had killed more than 1,400 elephants, a Captain Galleway and Major Skinner as many as 700 each. Sir Emerson Tennent, in his Natural History of Ceylon, says that between 1840 and 1850 rewards had been paid for the destruction of about 5,500 elephants.

The elephant population was greatest in the North Western, Eastern and Sabaragamuwa Provinces, with a fair number in the Northern and North Central Provinces. The largest and the best specimens are yet found in the Tamankaduwa area and in the basin of the Mahaveliganga. Of course the elephants which haunt the Mahaweli area are only the "ghosts" of the famous Tamankaduwa herds. The depleted herds now wander in fives and sevens in search of food and water as the irrigation schemes and the illicit clearing of

chenas go on apace restricting still further their movements in their jungle homes.

About two years ago there was the Maha Kandarawa herd of about 25 to 30 elephants led by a massive tusker. This herd used to be frequently seen between Mihintale and the Kurundankulama Dry Farming Scheme, on the Mihintale-Anuradhapura road, particularly during Poson, and large numbers of poson pilgrims used to halt their vehicles and watch the majestic animals. A friend and I, on one of these occasions, crawled up to within twenty-five feet of the herd and took photographs of them. The Maha Kandarawa herd is no more. That tusker has long ceased to exist, and in all probability his tusks adorn the drawing room of some person whose perverted desire to display his riches to the world had initiated the destruction of such a majestic beast.

The largest herd which has been seen in recent times (as recent as two weeks ago) in the N.C.P. is one of sixteen elephants in the Wilpattu Game Sanctuary. But most reports from remote village areas of the sighting of large numbers of elephants are grossly exaggerated.

THERE IS NO DOUBT THAT THE ELEPHANT IS DOOMED. He has no chance of survival at all! Almost every villager has a gun and, according to the law, he is permitted to shoot an elephant not only when it is trespassing on cultivations but if such trespass appears to be imminent.

How many of those who go to their watch huts really watch, particularly in the N.C.P.? The men get into their huts and sleep, then not only elephants but wild boar, deer and cattle break in. There was an occasion when in Walangunawa, a village completely surrounded by jungle about ten miles from Rambewa, I was sleeping in a watch hut with the owner of the chena. It was a "badairungu" (Indian corn or maize) chena and we woke up when two elephants had broken in. Unwittingly I coughed

and this scared away the two elephants. It may be true that there are deaf elephants, but if chena hut watchers light fires with that abundant firewood available they could effectively keep away prowling elephants.

What is ironical is that although elephants are shot at by cultivators the government annually pays in the N.C.P. several thousands of rupees as compensation for elephant damage or "alipaluwa". If alipaluwa is being paid, why is it not possible to make the shooting of a wild elephant an offence with the onus of proof of self-defence on the killer?

The regular droughts in the N.C.P. also take their toll of the elephant population, particularly the young. During the last drought of 1957, about ten to fifteen baby elephants were found by villagers in water-holes in the Anuradhapura District alone while the number that probably died as a result of such falls into water-holes in thick jungle would be in the region of about 50.

But the biggest contribution, in the last three years to expedite the end of the elephant is over the issue of permits for the capture of

elephants. The trappers do not care what happens as long as they get their Rs. 1,000 when the elephant is captured. The most crude and inhuman methods are used in capture. It is well known that when a permit is obtained to capture one elephant several are captured and surreptitiously removed through jungle paths a few days after capture to places where there are tame working elephants.

If immediate and drastic action is not taken, our children may never see elephants even in the Yala or the Wilpattu sanctuaries. At present it is very difficult for the Wild Life Department to get a conviction against a person who has shot an elephant. Even if a conviction is obtained is the punishment that a magistrate could impose deterrent enough.

Let it not be said by posterity that this generation of Buddhist Ceylon permitted the extermination of our wild elephant—the elephant which even today carries the Sacred Tooth venerated by millions.

It is up to the authorities to act now to save from extinction our largest and most majestic beast.

Life Among the Veddahs

By G. V. P. SAMARASINGHE

Director of Rural Development

IN this series of talks I am aware that I am treading on ground that has been more competently covered by others, particularly Dr. Spittel. I am not an anthropologist and my interest in the Veddah people has not been based on the desire for anthropological research. I came into contact with them, first, as part of my job; but, they are such an amazingly interesting people to one whose backgrounds are mainly "city" that I could not but help being fascinated by a group who for long have lived in a world of their own surrounded by their own superstitions, habits and customs and by a

way of life that is based on simplicity and the enjoyment of small things.

The area I shall now cover (in this talk) is on the borders of the Gal Oya Reservoir. It is the thick jungle south of the Maha Oya-Batticaloa Road. When land was opened in the Gal Oya Valley the Veddahs of the Wellassa jungles were faced with a new situation. They were highly perturbed that their hunting grounds and former places of stay would go under water when the Gal Oya Reservoir came up to its full supply level. My early contacts with them were in connection with the possibility of their

settlement in other areas. The Veddahs of Bintenne Pattu had by then already begun an agricultural way of life, and, on my first visit I went round meeting the Veddahs of Mullegama, Ratugala and the Henebedde areas to see whether these groups too would be prepared to settle down in the manner of the Veddahs of Bintenne Pattu.

The first Veddah I met was young Gombira in the jungle about 15 miles from Maha Oya and he came to tell us that the Veddahs of Mullegama and Henebedde would meet us at Pollebedde which was his own village and which was rapidly becoming a semi-agricultural settlement. After talking to us for a few minutes he disappeared and we later found that Gombira had gone to the Nuwara Gala Forest Reserve in search of monkey flesh to entertain his friends who would come from Mullegama and Henebedde. They consider this the most delicious of meat.

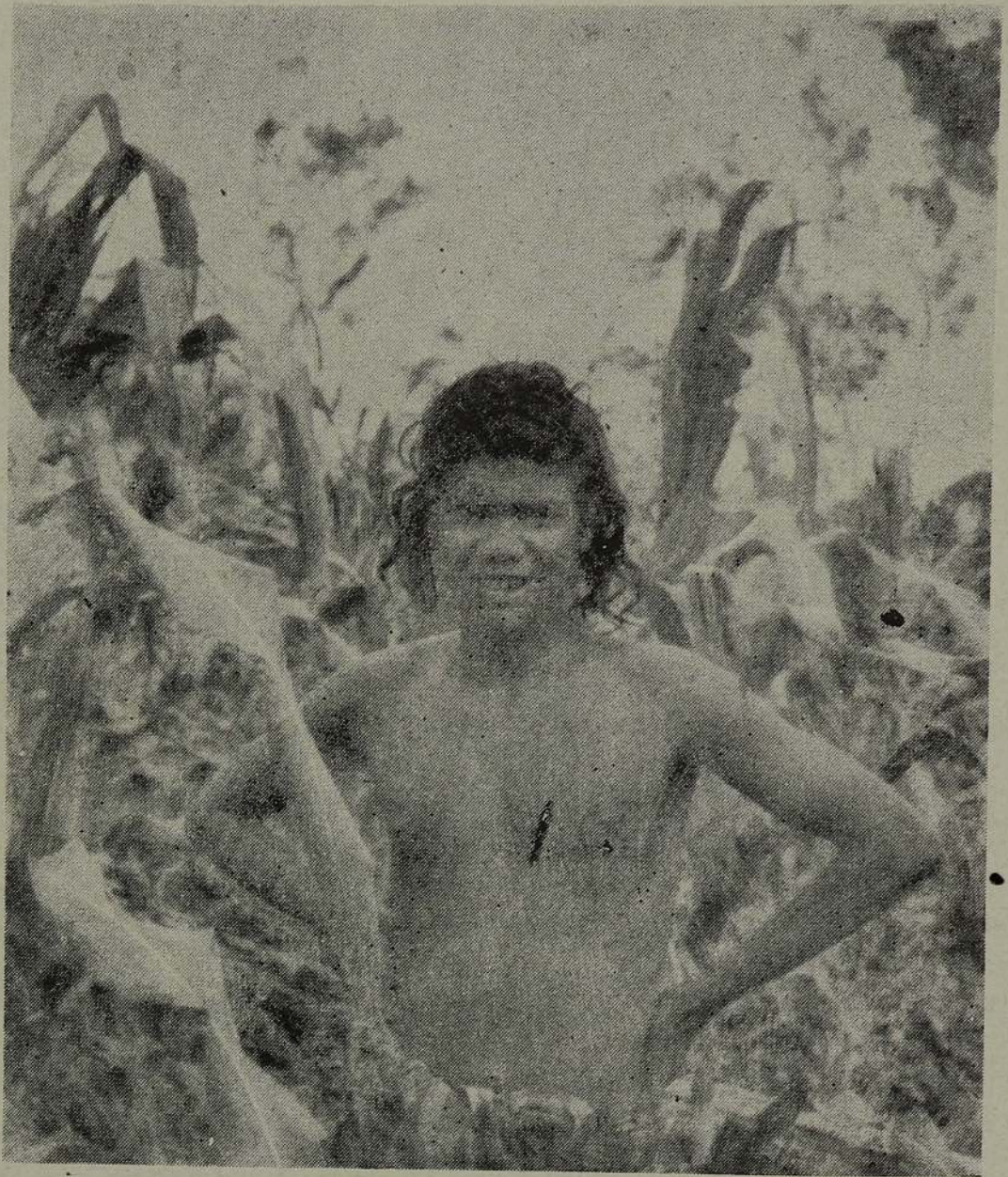
- When we approached Pollebedde village we came across a large tree on the trunk of which the emblem of a bow and arrow was deeply carved. This, we learnt, indicated the boundary of their area. We were told by old Poromola, the leader of the Pollebedde Veddahs, that he remembered the time a Government Agent was challenged when he came to the boundary mark ; the method of challenge was to raise an axe and dig it deep into the ground. After exchanging the normal courtesies with Poromola, Maha Kaira and Run Duna, the leaders of the Mullegama and Henebedde Veddahs, exchanged greetings with us.

I went into a Veddah hut. It was about 10 feet by 12 feet with a fireplace and was thatched with illuk. There were four or five deer skins lying by the side of the walls. They use these as mats. Gomba's daughter, Badini, was munching some dried meat while Gomba's wife was preparing the noon meal, which was of talapa, a paste prepared out of Indian corn flour. With the talapa, she had prepared a curry of dried venison. In Poromola's house, his wife, Handi, was preparing some meat

curry for the Mullegama Veddahs who were his guests. It appeared that Gombira had been successful in his attempts to get meat for the guests. Gombira was rather an exception to the Veddah today and while I would like to paint a picture of Veddahs daily going to the jungle for their meat, the fact is that many of them have lost interest as it is difficult to obtain jungle meat.

While having lunch we had a chat with Gombira and Poromola about Gombira's expeditions into the jungle in search of flesh. Poromola confirmed that there was hardly any place in the vast expanse of jungle which constitutes the Nuwaragala Forest Reserve where Gombira had not been. Gombira told us that he used to spend 3 or 4 days at a stretch in his jungle expeditions and that he generally lived in rock caves during the period. His name for these trips was "randayanawa" which means to go out with the idea of staying for some days. Unlike other Veddahs Gombira prefers to go on these trips with one or two of the younger boys. Poromola's wife Handi recorded her resentment that Gombira took these children out into the jungle with him but since these boys brought back a share of the meat for their own homes the resentment was tempered by acquiescence. The first animal that is shot on an expedition is used for consumption on the trip. Gombira builds the fire and entrusts the roasting of the meat to the children. Wherever Gombira moves a whole pack of dogs follows him and when he goes into the jungle he is accompanied by 5 or 6 of these dogs. They help him to track the animals which he has shot. I asked Gombira why he did not take any adult Veddahs with him on his hunting trips. His answer was a typical mixture of superstition and practical wisdom. He said he had always had better luck when he went on these trips alone. Moreover he said that once they narrowly escaped being killed by a rogue elephant who had waited silently by the side of the jungle path having heard their conversation. They were not aware of the presence of the elephant till they were almost on it.

Fortunately all of them managed to climb nearby trees in the nick of time. They were, however, stranded on the trees for more than 3 hours before the elephant started moving off. His point was that when he goes alone there was no one to talk with you and without this distraction his senses were completely tuned to the jungle conditions and the dangers that may await one. He kept on repeating that it was very essential to observe complete silence when travelling in the jungle. Poromola butted in to say that no one knew better than Gombira how to avoid dangerous animals and that he had the capacity for disappearing into the jungle like an animal himself. According to him the she-bear with a cub was the most dangerous wild animal next to the rogue elephant as the she-bear would never leave her young even under the most desperate situations. She would try to attack an enemy even after she had sustained severe injuries.



Gombira of Pollebedde

R. L. Spittel

I saw some smoked fish in Handi's hut and when I inquired how they managed to get them in the jungle, Poromola took me to a pool and showed how they caught them. Their method is actually to poison fish. For this purpose they use a kind of wild fruit called "kukuru", crush it into pieces and put the crushed fruit into a water-hole where fish are in plenty. After some time the fish start floating on the surface of the water and then they knife them and collect them. The commonest variety of fish that is found in

these waters is known as "kokosso" and these are smoked and kept for use.

We were rather lucky on this trip. The Pollebedde Veddahs were preparing to conduct a "kirikoraha" dance. This dance is done to invoke the spirits of the dead and get their blessings for better hunting. A mortar is placed upright on the ground and on this is placed a pot filled with scraped coconut. Betel leaves are arranged inside the pot. The Veddahs claim that when they take part in this ritual they

are possessed by the spirits of their dead relatives and they invariably end the dance in a kind of trance. Handuna of Pollebedde was playing the drum and the Veddahs started dancing round the mortar squeezing the scraped coconut while others sang. At the end of the dance they took out the betel leaves and split them one by one with an arrowhead. They measure the success of their hunting trips by the manner in which the betel leaves get split. Poromola claimed that these prophecies were extremely accurate in the time of their fathers and that by following the direction indicated by the betel leaves they invariably came across their prey.

We went from Pollebedde with Gombira to Nuwaragala. Nuwaragala is one of the rock fortresses built during the time of the Sinhalese Kings and even now there are some ruins around the place. One of the spots was called Maligatenne and this was supposed to be the site of the palace. There is a beautiful rectangle shaped pond, which is always full of water on the summit of the rock. There is a legend to say that valuable treasure is found inside the rock, the approach to which is through a secret entrance at the bottom of the pool. Poromola told us the story that once they decided to find the treasure and started baling out the water from the pool. While doing so, one of them was possessed by a demon who ordered them to abandon the idea of finding the treasure. Accordingly they gave up the idea and returned to the village and no one thereafter ever attempted to search for this treasure.

The Veddahs, however ferocious they may look, are really a very friendly and pleasure loving people. Their sense of humour is typically "jungle". To Gombira, for instance, the fact that his cousin brother, Heenthutha, ran away when face to face with a "botakanda", which is their name for an elephant, was a matter for hilarity and the reference with which Gombira laughed at Heenthutha was personal, obnoxious and insulting. Heenthutha, however, took no offence and laughed at his own lack of courage. They are a people who live simply; and, where

I expected to find a morose, complaining folk, dissatisfied with their lot and blaming everyone else, but themselves, for their lives, I found a most pleasant, fascinating and carefree folk, an amazing contrast to what we who are "city bred" have been accustomed.

TALK No. 2.

I shall speak today of some of the social customs of Veddahs. I referred to their hunting expeditions and I spoke about the 'Kirikoraha' dance which was a preliminary to any large scale hunting trip that they undertook. The propitiation of spirits is a traditional feature of the activities of all forest tribes throughout the world and the Veddahs are no exception to this rule. I am sorry I am unable to give a visual picture of the dance itself, but the singing and the music that accompanies the dance have a vivid jungle rhythm about it which is typical of nomadic forest dwellers such as these. On this trip I not only went to the Pollebedda area, but also visited the village of Dambana. The change in the traditional customs of the Veddahs was apparent in the different ways in which Kaluappuwa of Dambana and Ratambawatte Tissahamy greeted us. Kaluappuwa of Dambana followed the western pattern of greeting by shaking my hand, while Ratambawatte Tissahamy, who is a more conservative type of Veddah still followed their traditional custom of touching both my shoulders with stretched arms.

I visited one of the Dambana houses. It was owned and occupied by a gentleman who bore the very interesting name, 'Alakola Bandiya'. I tried to find out why he was called so and every one seemed to be very reluctant to give me the reason. Apparently, this was more a nickname than a name and my Rural Development Officer there seemed to think that the name came to him from the fact that he was fat during his childhood days, probably with a malarial spleen. I found this gentleman putting his little child to sleep and he was singing a song while doing so. I asked Tissahamy what he was singing and he said that this is a 'Daru Nalawilla'—a Lullaby.

This very common and natural custom had the very attractive name of කැකුලට කථා දමන කවි පොච්චිය which means, a song sung to a small child. While I did not understand a word that was said, the song had a most lamenting and rhythmic note, a little raw, perhaps, but still very affecting.

In another hut at Dambana, we saw a new born child and since it was dark inside the hut I tried to have the child taken out. Tissahamy adamantly refused to do so and said that they did not take small children out of their huts since they were too immature to resist the power of the evil eye. We asked him what he would do if the child was very ill and he found it necessary to take the child to a hospital. He said that in that case he would cover up the child completely with a cloth so that 'Nayakku' won't be able to see him. 'Nayakku' is their word for an evil spirit. Tissahamy pointed out to us that even for bathing the child they used one corner of the hut and we noticed that there was a small drain leading from the corner of the hut to a nearby pit where water was collected. A child is generally not taken out of a hut until it is at least a year old.

On my last visit to the Pollebedda Veddah Settlement I found that young Gombira had fallen in love with Poromola's youngest daughter Heen Kairi and insisted that she should be given him in marriage. Old Poromola, however, vehemently opposed this suggestion as this marriage would be in contravention of one of their age old customs of considering the relationship between parties before a marriage was transacted. In this particular case, Gombira was according to the nature of their family relationships considered one of the grandsons of Poromola. There was another reason for Poromola's objection. Poromola was rapidly settling down to a non-nomadic life and in the last 2 or 3 seasons he had been having excellent chena harvests which the Department had helped him to sell. In fact he had collected for each harvest about Rs. 800 and was rapidly realising the value of a settled life. Gombira, however, was

one of the few of the younger Veddahs who still look to the old custom of going into the jungle for their food. Poromola would naturally have liked a much more settled type than Gombira as a husband for his daughter. In addition Gombira's own previous married life had not been very successful. He had deserted his first wife Kapuru as Gombira himself said he disliked her. In spite of Poromola's objection he had captivated the fancy of Heen Kairi, Poromola's youngest daughter, who herself was determined to get married to Gombira. She was a young girl of about 13. In spite of Poromola's objections, Gombira got his understanding with Heen Kairi approved. But even though Gombira had managed to clear this hurdle he had to go through the normal trial period of working in Poromola's chena for a year. Apparently Veddah customs demand that a man must prove himself fit to be a husband before he took a wife, and so Poromola in his efforts to break the relationship between Gombira and Heen Kairi was determined to extract his full ounce of flesh in accordance with this custom from Gombira. Poromola therefore insisted that Gombira should help in working his own chena. He also entrusted another block of land to be cultivated by Gombira for Gombira's and Heen Kairi's use. In this work, however, Poromola permitted Heen Kairi to work with Gombira in clearing work. After he had passed this test Gombira had to come with his mother and relations to give new clothes to his intended wife. The gift comprised a piece of chintz about $2\frac{1}{2}$ yards in length and a yard of jacket cloth. Once these presents were accepted by Heen Kairi, the marriage was considered performed. I made inquiries as to whether this was common custom and found that their old customs had been completely changed. In early times the Veddah customs relating to marriage required the prospective husband to visit his intended wife's home with a substantial chunk of meat which he had collected on a hunting trip. A Veddah to establish his suitability for married life had to prove himself capable of maintaining his

wife to the satisfaction of the parents of his prospective wife—at least that he was capable of keeping a family fed. When he entered the hut he had to leave his bow and arrow against the outer wall of the hut with the arrow-head pointing up. When leaving, if he found that the arrow had been placed sideways, it meant that his suit was not accepted, and he could consider that he had no hope of obtaining a wife from that household. If, on the other hand, the arrow remained head upwards, it meant that he was accepted as a suitor and he was afforded the opportunity of visiting his intended wife with his parents and relations. Of course, whenever he did this he had to contribute to his own entertainment and take with him

meat and bee honey in substantial quantities so that his future wife's parents would not undergo any hardship in entertaining him and his parents. Thereafter, after marriage he had to stay in his father-in-law's house for some time and the young couple were helped to put up a separate hut.

I made inquiries about their death customs from Ratambawatte Tissahamy. He told me that the Veddahs of the Bintenne region, when they lived as cave dwellers, followed the custom of leaving their particular rock cave when a death took place among their group. They kept the dead body in the extreme corner of the cave and covered it with leaves before their departure. Since rock caves are plentiful in the Bintenne jungles it was not a problem for them to find other caves to reside in later. When they gave up residence in rock caves and started putting up huts of



R. L. Spittel

Vedda women of Pollebedde. The girl on the left is Poromola's daughter whom Gombira wanted.

illuk, they followed the same custom by abandoning the hut immediately after a death and occupying a new one which they constructed within a few days. Later the custom of leaving the dead body in the caves was done away with and the traditional forms of burial now take place. Being superstitious people they followed this custom because they felt that the spirit of the dead person would remain in the place for some time and cause disturbance to those living in it. The more recent method of disposing of their dead bodies was to get the bark of "Gadamba" trees and make a coffin by placing one piece of bark over another. The dead body is then placed between the two pieces of bark and firmly tied together with creepers. They carry this to a patana land and bury the body in a grave about 3 feet deep. Of

course there was a certain amount of desecration by wild animals due to the shallowness of the graves. But death is not something that caused much sorrow or lamentation. Being nearer nature than ourselves, they expect death as a normal phenomenon and comfort themselves accordingly. There is no wailing or lamentation. This is not strange among a people who live perpetually in danger of their lives and who, without medical facilities for their children and themselves, are very susceptible to illness and death. The strange thing, however, is that despite this they were lively and full of spirit. Their social customs do not permit any persons left without support to starve. Generally a relative of the husband, particularly if there was a brother living, looked after the dependants.

You will see that their customs are directly co-related to their methods of life and have sound commonsense behind them. Where they cannot clarify in their own minds the reasons for a happening—as with even more educated groups—they fall back on demonology or on spiritualism of some form or other; but their closer contacts with the normal rural populations are rapidly changing their habits and their customs and I wonder whether we can now come across Veddahs of the type that Dr. Spittel has written so feelingly in his books.

TALK NO. 3

In the previous talks of this series I tried to draw a picture of the change taking place in the lives of a people who by necessity were feeling the impact of new ideas and new methods. I showed that the Veddahs were changing rapidly from a nomadic jungle life and were now being settled in villages. I also showed in my second talk how their customs were changing to the more sophisticated ones of developed areas. This process of change has been deliberate and planned. Let us see what the problem involved in this change was. Dr. Verrier Elwin the famous Anthropologist after visiting the Veddahs in the company of Dr. Spittel in 1950 made this comment :—

“The first place where I felt absolutely at home was in a Veddah chena for here in the little huts utterly devoid of the apparatus of comfort and the things we regard as necessary to happiness, I found precisely the same kind of courageous, lovable, hardy primitives as those among whom I lived for 20 years in India. The Veddah problem today is an economic and psychological one. Though hasty attempts to change the hunter and food gatherer into a settled cultivator had been disastrous in other parts of the world the change must come. No one would wish to keep the Veddahs behind and apart from the main stream of civilisation. But the transition period for a small and weak tribe is one of the utmost danger and unless great care is taken may result in psychological collapse and economic disaster.”

In approaching this change, Government entrusted its formulation and implementation to a special Board consisting of some of the men who had the deepest interest in the Veddah tribes. Foremost among them was Dr. Spittel whose love and knowledge for these people is unparalleled.

In dealing with the Veddahs there was this one positive advantage and that was though the Veddahs were nomadic by nature they had no social severities or complexes. They are a proud people who consider themselves the superior of the Sinhalese in the surrounding areas. The general approach of the Board was that the first problem to be tackled was to convert the Veddahs, from a nomadic existence to a settled life and that this should be followed by education, health and irrigation facilities, communications, cottage industries and community organisations. It was necessary in this process of settlement to ensure that their new homes should not be away from the jungle by the side of roads but preferably deep in the jungles themselves. Efforts were made to find land near abandoned tanks that could be restored. The Veddah system of agriculture, whatever it was, was the chena system, and the chena

system involved the movement of peoples from one chena to another. Settled agricultural conditions were, therefore, essential. Tanks have now been restored and in these areas Veddahs are being settled to cultivate paddy. Simultaneously, however, the methods of cultivation that they know, that is the chena method, have not been discarded and this has been encouraged in the transition. I referred in my

income of the Pollebedde people in the last seasons has been about Rs. 800 per season per family.

Once these principles of settlement had been basically adhered to, the education of both the adults and, more important, the children was arranged. Schools have been put up and the children of the Veddahs like all other children are now going to school with their slates and their alphabets and their books, giving up their natural inclination to step into the depths of the jungle.

When I visited Pollebedde last, I tried to find out how successful this experiment in education was, and, while the younger group saw its advantages, the older ones were a little more sceptical because they could not just understand its practical value and particularly because of the greater freedom the younger boys who were getting educated were showing, to the degree of challenging parental authority. The school teacher, however, was an unhappy man and he was continuously grieved that attendance in his school was not so regular, and interest in the book and letter was not so intense as



Present day Vedda Young Men of Pollebedde

earlier talks to the Pollebedde Veddahs. They are now more or less settled and it is encouraging to see this group who a few years ago were roaming the jungles now preparing fields for cultivation. New methods of farming are gradually being introduced and highland cultivation on almost virgin land is yielding rich crops of maize, kurakkan and plantains. The average

he would have wished.

Similarly medical facilities are now becoming available. Visiting dispensaries have been started in most settled Veddah villages and apothecaries visit them once or twice a week. This service has proved to be a great blessing to the Veddahs who invariably suffered in their homes on account of their inability to visit a

dispensary far away from their villages, and their instinctive dislike to go into the developed areas in view of their mistrust of the normal villager. In the past, they had to fall back for relief on their superstitious beliefs in regard to illness and trusted more to exorcising spirits and the rituals of the dances than on any medicines. Things are changing now and you find in the dispensaries groups of mothers with their children awaiting the arrival of the apothecary.

The last fundamental matter of importance was access roads. I mentioned earlier that to make the psychological features of the transition as easy as possible their new settlements were sited in the heart of the jungles where there was no road access. There were two reasons for this: first the Veddah feels more secure in the midst of the jungle, and the second the very real fear of exploitation by the villagers round them from whom they had to be protected. I remember the time that the Pollebedde Veddahs got their first harvest. Every effort was made by rapacious middlemen to buy the produce for a song and the Government officers received much obstruction from those parasites in the steps they took to ensure that fair prices were obtained. Now, however, as the Veddahs have become somewhat accustomed to dealing with all types of persons and have become a little more business conscious than they were in the past, roads are being developed into their settlements. A typical example is a stretch of 4 miles of road to Padawela and Bakinigasduwa made motorable during dry weather and also a stretch of road from Maha Oya to Pollebedde.

While all these changes were taking place, it was necessary to create a new spirit of community. The people themselves had to be made alive and encouraged to be participants in the planning of their own development. Rural Development Societies have been organised and the problems of the Veddahs are discussed quite openly and freely between them and the Government officers. Through these discussions, new methods of agriculture, health and sanitation and village development are being

introduced into these Veddah villages and one can foresee a time not in the too distant future when they will be absorbed in the normal rural communities.

In spite of these things and in spite of the new ideas that are being introduced to these people they still keep their clan mentality, and their customs and habits and old methods die very hard.

I remember when I last visited Dambane all the request that Tissahamy had from me was to ask for a new gun but it was with a new sense of responsibility that he did so. He took me to a side and told me that he agreed that though all the families wanted guns they should not be given these because as he said the moment you gave them guns they would start going back to the jungles and the old methods of living. He suggested that a gun should be given to the community for their protection and, of course, that the gun should be kept with him. I saw in the back of Tissahamy's mind the feeling that the transition was too swift for his understanding and he could not appreciate a life wherein he could not slip into the jungle from time to time and live in the manner his father and his forefathers before him had lived.

When you go into a Veddah village now until you start talking and moving with them you do not see much of the older characteristics of their people. Their women are well dressed, the men still not so well dressed and the children look happy. There is however a tremendous amount of work both psychological and economic to be done. The progress of transition in matters like this must perforce be slow, because in this process the habits and customs of a 1,000 years are being changed. Further, encroachment of people into the jungles, the building of roads through the dense forests through which the Veddah roamed, supreme and alone, the new contacts with more developed groups of people, education and settled conditions of living play their part in the process of rehabilitation that is going on. One wonders whether the new generations of Veddahs will be



R. L. Spittel

Handuna—A Veddah of an older day

as happy in their new circumstances, with the meagre advantages that have been given to them, than in their old jungle haunts where they lived a life of hardship and of simplicity. Whether the complexities of modern life when it touches them more deeply, whether the subtleties of more developed living will keep them as wholesome in nature as they were in their jungle haunts are things that the future must decide but anyone who has worked with them and lived with them seeing their tribulations and their worries, their simplicity and

trust, their gratitude and honesty, will hope that, at least, some of these characteristics will remain with them when the process of merger with the more developed groups takes place. Yet among those of us who worked with them and love them there remains a feeling of sadness that this fine people will be no more in a few years and that when merged with the general mass a group that was worth knowing and living with will have disappeared.

Dr. Elwin said of the Veddahs :

“ In these fine, brave, happy, charming sons and daughters of the jungle, Ceylon has a real treasure. This lovely island is rich in every kind of natural and archaeological treasures and her people are careful to preserve and tend them. It is only the human treasure that is forgotten.”

Let us hope that in the processes adopted to discover and maintain this treasure we will not trample it so deep in the mud that its shine and beauty will be lost for ever.

Fresh Water Fishing

Notes on the 8th Session of the Indo-Pacific Fishery Council held in Colombo from 6th to 22nd December, 1958.

By ROMAN W. SZECHOWYCZ
Dr. Sc. (Eng.)

THE United Nations special organizations hold regular meetings at which scientists from all over the world meet to discuss problems, exchange information and experiences with the target of arriving at the best conclusion of how to raise the living standard of the world population and how to fight hunger and misery. One such international meeting at which the problems connected with fisheries was discussed, was the “8th Session of the Indo-Pacific Fisheries Council”. This session was held in Colombo in December, 1958, and besides Sea fisheries the problem of Inland fisheries was widely discussed. As the latter is gaining great importance all over the world, the review of findings will be of interest.

1. GOURAMY.—It was generally agreed that the Giant Gouramy (*Ospronemus gouramy* (Lac.)), is one of the most promising fish for stocking of fresh water in tropics. This fish belongs to the Anabantoidae family of fish and the labyrinth respiratory organ enables it to remain for a considerable time outside or thrive in very muddy water, breathing the air direct from the atmosphere. It is omnivorous and grows to a length of 2.5 ft. Gouramy construct nests in com-

paratively shallow water ; to promote their breeding it is advisable to construct such nests and plant them in ponds. Hence care should be taken not to destroy these nests when fishing with nets. It starts breeding when six months old and when water dries up in a pond, Gouramy can survive for some time by digging into the mud.

Two close relatives of Gouramy, the Siamese Gouramy (*Trichogaster pectoralis* (Regan)) and the Kissing Gouramy (*Helostoma temminckii* (Cuvier)) are advocated for stocking as well. The Siamese Gouramy starts breeding when 6 months old, and this fish usually multiplies well in natural conditions. The female produces up to 7,000 eggs in a bubble nest prepared by the male fish. It grows to 10 inches and is a very popular fish in Thailand (but not in the Philippines). It was introduced to the Gal Oya waters in 1952. The Kissing Gouramy guard their fry and eggs which are laid underneath some floating straw, etc. It is a vegetarian and grows to a length of 12 inches.

2. TILAPIA MOSAMBICA.—Considerable time was spent discussing Tilapia Mosambica (Peters). This fish belongs to the Cichlidae family of fish. It is a palatable fish which grows and multi-

plies without practically any attention, and hence it is very popular where lack of knowledge, lack of funds, or laziness prevents breeding of other fish which have to be looked after. It is, however, much smaller than the carp or gouramy and reaches only 15 inches in length and three pounds in weight. It starts spawning when three months old and afterwards spawns at regular intervals; and this retards the yield, hence separation of species as far as possible is advocated. It is a mouth breeder. The male constructs a "nest" which is a hole at the bottom of the pond and attracts the female, who lays ova into the nest. The male fertilizes the ova which the female immediately collects into her mouth and keeps till they hatch and afterwards till the fry is self-supporting. It was stated that it is quite important to locate the spawning grounds, which are usually in the part of the pond free of water weeds, and this area should be excluded from cast net fishing to prevent destruction of nests. Fishing over the spawning grounds (gill nets may be tolerated) leads to capture of a high proportion of males and the destruction of ripe females and females carrying fertilized ova or fry in their mouths.

The Fish Cultural Research Station, Butu-berendam, Malacca, Federation of Malaya reported:—

"As to fish, the chief interest now lies in the cross-breeding of Tilapia. Tilapia imported from East Africa, when crossed with the local Tilapia Mosambica not only produce offspring with a very high skew ratio of males, 100 per cent males in certain crosses, but also produce offspring of greater vigour. An experiment just ended shows, that whereas pure bred Malayan Tilapia grow faster than pure bred African Tilapia, the growth of hybrids being twice as fast as pure bred Malayan. Roughly the hybrids were nearing the half pound mark when the Malayan were near the one-quarter pound mark, all fish being in the same pond, having access to the same food supply. All fish were males, to avoid complication due to breeding."

Tilapia is being widely used for stocking. In Indonesia it is stocked along with *Trichogaster pectoralis* and *Puntius javenicus*. In Malaya, mining pools and swamps are stocked with it, but all endeavour is made to eliminate all predatory fish before stocking. Introduced into Malaya, *Tilapia malanopleura* failed to survive in spite of all precautions as predatory fish (*Ophiocephalus* spp.) had entered the ponds. In New Guinea in 1958 the Lake Sentani was successfully stocked with Tilapia, and Tilapia is widely used for stocking in Thailand where—except in the Northern part of this country—it is a very popular fish. In India, Tilapia was widely introduced into many waters; but recently it was observed that this fish affects the highly organized carp culture industry in many provinces, hence the Government now specifies the area where Tilapia may be introduced taking into account the standard of pisciculture, etc.

In their final recommendation to the Governments, the 8th Session of the I.P.F.C. recommended with reference to Tilapia:

"Research on Tilapia should be continued both in fish ponds and natural bodies of water and the results submitted to the next session."

Tilapia was introduced into the Gal Oya Valley (and into Ceylon) in 1951 and now is well established. Commercial fishing in the Valley produces fish catches consisting of 95 per cent of Tilapia and sport fishing for this fish is a very popular (and profitable) pastime for many. It is worthy of mention that experimental fishing conducted in Amparai tank in 1951 prior to the introduction of Tilapia produced catches of a very low quality and quantity. The coastal belt population has named Tilapia "The Japanese koral" in spite of the fact that this fish has nothing to do with Japan. It is a very tasty fish, not bony, but a bit too soft for curries and being more perishable than sea fish, it is sold in the market at low prices.

3. CHINESE CARP.—In reference to stocking with Chinese carp (*Ctenoparyngodon idellus*) (Val), the 8th Session of I.P.F.C. recommended that:

"Research should be continued on spawning

of Chinese carp with special reference to the production of their fry."

The peculiarity of this fish is, that it does not spawn outside its own country (China). It is a very good and quick growing commercial fish and an excellent fish for controlling water weeds, hence it is often named "Grass Carp". It is a herbivorous fish, grows to 30 pounds and is widely used for stocking of fresh waters in Indonesia and Malaya.

Stocking of the waters in Ceylon was done with the hope that this fish would find suitable conditions for spawning and would become permanent residents of this Island. The Gal Oya river near Bibile was stocked by the Fishery Department in 1948 and further stocking was done in 1952. No trace of this fish has been seen to date.

4. COMMON CARP.—At present the science of breeding the Common Carp (*Cyprinus carpio*) (L), is a subject in practically any agricultural school and the carp now, after 56 centuries of breeding, is more or less a "domesticated fish", hence it was hardly mentioned during the Session. It was stated that in certain countries (India, etc.) the introduction of *Tilapia* influenced adversely the culture of carp.

5. CATLA.—The Federation of Malaya in 1957 imported ten thousand of fry of Catla (*Catla catla* (Ham and Buch)) for stocking of rivers and reservoirs. This fish grows up to 6 ft. in length and 140 pounds in weight. The fish is palatable but reported to be "somewhat bony". It is a fast growing fish but it spawns only in rivers; so in the case of the reservoirs, fingerlings have to be introduced at regular intervals.

6. MILK FISH AND MULLET.—STOCKING OF FRESH WATER WITH MARINE FISH was widely discussed. There are two species which



W. P. Szechowycz

Author with a male and female *Tilapia mossambica*

often give an excellent return, the Milk fish (Vaikka (S), Pal meen (T), *Chanos chanos* (Forsk.) and Mullet (Kitheya Thel godeya (S), Manalei (T), *Mugil cephalus* (Lin)). Milk fish spawn in the seas in certain seasons and one female produces as much as 3 to 5 million eggs. Such enormous quantities are required by Nature as the eggs and young fry are destroyed in great quantities by predators. This is one of the reasons why stocking of open waters (reservoirs) with Milk fish is seldom done. Eels, cormorants, kingfishers, terns and predatory fish seem to develop a preference for feeding on young chanos especially as these fish habitually swim in shoals close to the surface. As a sport fish it has no value as it will not take any bait. In Thailand with fertilization of ponds, protection against predators and feeding, as much as 2,640 pounds per acre are often harvested. Once this fish grows to about 10 inches in length, it makes attempts to return to its own habitat, i.e. the sea; therefore if the pond or reservoir has been spilling even for a short period during the rainy season these fish would most probably return to the sea.

The Mullet like the Milk fish feeds on diatoms and blue algae hence when introduced along with Milk fish where the ponds are not fertile and large enough to accommodate both species, they start competing and the pond gives smaller returns. Mullet is much smaller than the Milk fish.

RICE CULTURE AND BREEDING OF FISH.—The breeding of fish along with paddy (rice) growing is widely practised in Indonesia, Malaya, Siam, China and Japan. The field produces not only additional food in the form of fish, but the crop of rice is usually increased by 6 to 10 per cent. The 8th Session of the I.P.F.C. with reference to this method recommended :

“Considering the importance of this method for increasing the production of freshwater fish and the inadequacy of information on this subject the Committee recommends further research.” *i.e.* research on the effects of insecticides on fish, inter-action of rice and fish, the influence of fish breeding on the yield, etc.

Experiments were conducted in the Valley to introduce this method of “paddy-cum-fish” but without much success. The methods of growing rice in Ceylon are different to methods in Indo-China, etc., where a depth of water in paddy fields is maintained during the whole growing season. In the dry zone of Ceylon, where sandy soil is predominant, it is difficult to maintain the required depth of water. In the experimental plot, in spite of the fact that in the lower corner of the field a depression was constructed where theoretically fish should survive when the water-level drops, the survival rate was below expectation. It was partially due to the fact that many predators (snakes, birds, jackals, etc.) had found the paddy fish easy and tasty food. May be, when this method is introduced on a bigger scale and the predators are not concentrated in a small area, the results may be more encouraging. The fact that the colonists in the Valley are ruled by restrictions imposed on them by the Buddhist religion, is one of the factors which adversely influences introduction

of this method on a larger scale as well. A conversation with a Buddhist priest will explain the position. Complaining to one of the Board's Officers on the bad habits of the present generation he stated :

“You know, the young people of today, they steal, they rob, they cheat, they murder, they even start fishing.”

In any case experiments with “paddy-cum-fish” agriculture should be continued with the hope that the scarcity of food expected in the near future will encourage the adoption of this method to cut down on the import of food from abroad.

SALINE LAGOONS AND BREEDING OF FISH.—Many efforts were made to utilize the saline lagoons for the production of fish. In Singapore about 1,300 acres of mangrove saline swamps were converted into ponds and at present 230 tons of fish and prawns are harvested there annually. In Ceylon there are thousands of acres along the coastal belt covered with shallow saline water. These lagoons during the dry season are cut off from the sea by sand bars and sometime ago proposals were made to convert these lagoons situated within the Board's Area of Authority close to Akkaraipattu into fish ponds. Lagoons were examined by the writer and the proposals were not recommended by him. The soil in these lagoons is very sandy and poor without an inflow (or a very limited inflow after the sporadic rains) during the dry season. They are hence partially dry during this season increasing the salinity to such a degree that even the sea fish often die. Tilapia was introduced in these lagoons and though it has a high resistance to salinity (it can endure well a salinity of 6-9 per cent) it stops breeding when salinity exceeds 3 per cent, its growth is restricted and I have not seen Tilapia exceeding nine inches in length taken from these lagoons.

FISH BREEDING AND CONTROL OF WATER WEEDS.—The use of fish in the control of lasting water weeds is well known. Gouramy,

Tilapia, Chinese carp and other vegetarian fish feed on aquatic vegetation. An interesting report of research conducted on this subject in Hawaii was read during the Session of I.P.F.C. It was stated that:—

“Under the sponsorship of the territory of Hawaii Division of Fish and Game, *Tilapia mosambica* has been introduced into irrigation reservoirs for weed control with generally good success. The problem of weed control in irrigation ditches is somewhat more complicated. The results to date suggest that *Tilapia mosambica* has been an effective means of controlling submerged aquatic vegetation in reservoirs where the vegetation was fairly soft bodied, such as *Potamogeton* or *Anavharris*. Experimental work is currently underway, utilizing two other species of *Tilapia*, which at least under laboratory conditions will eat much coarser vegetation. These two species are *Tilapia zilli* and *Tilapia malanopleura*. The control of aquatic vegetation in irrigation ditches is a more complicated problem, since species of *Tilapia* are essentially pond fish and will not remain in rapidly flowing water in sufficient concentrations to have any real effect on the aquatic vegetation.”

The problem of controlling the aquatic vegetation was very acute in the Gal Oya Reservoir from 1953 onwards. At this time an enormous area of the Senanayake Samudra was covered with a green carpet of the noxious water weed *Pistia stratiotes*—so thick, that it was possible for many water birds to walk over it. The fact that this plant promotes elephantiasis resulted in all efforts being made to bring this menace under control by spraying with weedicides and by collecting. Efforts proved effective and at present *Pistia* is found only sporadically. To what degree the introduction of the now well established *Tilapia* has contributed in achieving this success it is difficult to guess, but its contribution must have been considerable.

CONTROL OF MALARIA AND FISH BREEDING.—The value of fish in controlling the mos-

quito menace has been known for centuries and larvicidae fish like Missionary fish (*Lebistes reticulatus*), etc., are often introduced for this purpose. Since the popularisation of *Tilapia*, many observations have been made on this fish and it is now established beyond any doubt that this fish contributes considerably to malaria control. Research conducted in Djakarta by Hofstede and Bethe have shown the following results:—

“After the Second World War it was observed that in previous so-called ‘long algae ponds’ which cause malaria danger, the water surfaces were no longer covered with filamentous long algae (*Chaetomorpha*, *Entromorpha*, etc.). This fact coincided with the occurrence of ikan-mudhair (*Tilapia mosambica* (Peters) in this area. Field experiments were carried out in the years 1948 and 1949 to investigate the possibility of suppressing the development of these algae by means of stocking such ponds with this *Tilapia* species. From these observations it became evident that under certain conditions (*e.g.* sufficient water depth of about 50 cm., a regular checking of predators) it is possible to clear the water surface of these algae and in this way to control malaria by destroying the demanded breeding environment of the particular vector *Anopheles ludlowi*.”

In the Gal Oya Valley, at Inginiyagala, in spite of the fact that this town borders the large Senanayake Samudra Reservoir, mosquitoes are not abundant and this is most probably the result of proper stocking of this reservoir with *Tilapia*. There is, however, no doubt that *Tilapia* introduced into the Island in 1951, along with D.D.T. spraying contributed to malaria control. Further it must be borne in mind, that mosquitoes are able to develop immunity against chemicals, but are unable to develop immunity against larvicidae fish.

AQUARIUM FISH.—During the 8th Session of I.P.F.C. discussion on aquarium fish took place and it was stated that :

‘Introduction of aquarium fish is becoming increasingly important. Information available

on habits are insufficient to ensure that fish liberated in natural waters, will not become a serious menace to other aquatic forms of life. For example, *Lebistes* is described as a harmless fish with potential biological control of mosquitoes. However, it is known to attack small fish of good edible varieties and therefore could be termed noxious."

It is interesting to note that *Lebistes reticulatus* (Missionary fish or Million fish) was excluded by the Australian Government from the import licences granted in the territory of Papua-New Guinea.

(Some small representatives of Ceylon fish fauna like the Golden rasbora (*Hal mal dandia*, *Hal mal titteya* (S), and *Rasbora vaterifloris* (*Deraniyagala*) have world-wide reputations for their beauty and hence are interesting aquarium pets. It is a small 1.5 inches long fish with a golden purple colour and the Department of Fisheries restricted the export of this fish to prevent extinction in Ceylon streams).

WATER POLLUTION AND FISH BREEDING.—The 8th Session of I.P.F.C. recommended in reference to water pollution that :

" . . . this is a very important question and Member Governments be urged to take early steps to enact legislative measures."

The problem of water pollution in Ceylon is still not acute, but with the increase in industrialization it will sooner or later arise.

GAL OYA VALLEY DEVELOPMENT.—The legislation of many countries prohibits blocking of rivers for movement of fish and often very costly fish ladders have to be constructed to enable the fish to pass the dams. But in Ceylon there are no such anadromous fish which have to reach the upper parts of a river for spawning as in the case of the salmon, etc. Hence the construction of ladders is not warranted. At the 8th Session of I.P.F.C. it was pointed out that tree stumps in reservoir beds considerably retarded in many cases the development of fisheries. It recommended to the Member Government :

" Surveys should be carried out on notice being given of impending construction of dams and the sites should be cleared before water is allowed to accumulate in order to facilitate subsequent exploitation of the reservoirs. The committee stressed the need for continuing biological surveys after the completion of the project. Legislation should in each case be enacted to ensure that such surveys are carried out and that their cost is borne by the development authority and that recommendations arising from them are given due and proper attention and consideration."

In the Senanayake Samudra an area of approximately 5,000 acres was completely cleared of all timber, but this operation was quite costly, so the balance of 15,000 acres was provided only with 600 ft. wide navigable lanes.

In all reservoirs in a tropical climate where the temperature never drops below 4°C the mixing of water occurs only due to mechanical forces. In arid zones, the inflow into reservoirs takes place only in certain months and wind forces influence the water movement only to a very limited depth so that the deeper layers of bigger reservoirs are static. Consequently when water is stored for a considerable time, the decaying processes consume oxygen which cannot be replaced from the atmosphere and produce many toxic products (hydrogen sulphide, nitrates, etc.). The inflow of cool water into a reservoir (or cool rain) by cooling the surface water layers, presses the warmer bottom layers poisonous for fish to the top ; when this takes place, thousands of fish may be killed. This phenomenon was observed in the Senanayake Samudra in 1956 when, after a heavy storm, the surface of water in the Selakka Oya area was covered with dead fish. The same phenomenon occurred in 1953, when during the rainy season the bottom layers close to the Spillway Dam were pressed by the fresh inflow to the Reservoir surface and thousands of fish were poisoned, and for a few days nearly the entire water surface was covered with dead fish providing a delicious meal for pelicans, etc.

So, strange as it seems, fresh water inflow well saturated with oxygen may under certain conditions have a very adverse effect on the fish life in a reservoir.

DYNAMITING AND FISH BREEDING.—The greatest menace to the fresh water (and sea) fisheries is dynamiting. There is hardly a day when such an offence is not reported in the Ceylon newspapers and it will not be an overestimate to presume that only one case in a hundred is detected. In this connection the author must confess that he once committed such an offence. In 1954 a Fishery expert visited the Gal Oya Valley from abroad and at that time no fish gear was available to conduct any experimental fishing, which in the Senanayake Samudra was extremely difficult due to the fresh submerged jungle. It was hence decided to examine the fish fauna with the help of dynamite. (The setting of a "bad example" did not arise as the area was completely depopulated). Charges were exploded in 4 pre-selected spots, fish collected and catalogued and the expert left the valley. On the next day on inspection tour the author was travelling by motor launch close to one of the spots where dynamiting took place, and to his surprise found several big fish floating dead in spite of the fact that endeavours had been made the previous day to collect all fish for statistical purposes. Immediately further search was made and many large Wallayas, Lullas and Eels were collected in a radius of about half mile from the spot where the charge was exploded. The point is, that by using dynamite only a small fraction of fish is collected. The bigger and stronger specimens are not killed immediately and have enough strength to rush from the place of dynamiting and die after some time.

It is estimated that six to ten thousand pounds of fish are collected daily by means of dynamiting and unless heavy penalties are imposed by law it will be extremely difficult to stop this menace. As it is no problem to detect whether the fish available in the market were killed by dynamite or not, it could be

made an offence to possess such fish for sale. The culprit is, really speaking, not the half illiterate fisherman, but the rich "mudalali" who supplies dynamite, buys and sells the fish.

THE FUTURE OF INLAND FISHERIES.—The Government of Ceylon understands the importance of the fish industry in Ceylon and credit facilities to promote fisheries are given on very low interest—3 per cent in the case of the individual fishermen and 2 per cent in the case of registered co-operative societies. In Thailand the interest is 8 per cent, in Hong Kong 10 per cent in case of the individual and 3 per cent in case of the co-operative societies. In Indonesia 12 per cent, in Japan 6.3 per cent and in India (Madras and Bombay) 4.3 per cent.

The biggest set-back in the development of inland fisheries is the prejudice against the fresh water fish. In fact the indigenous fish have often a muddy taste and are more perishable than sea fish, so when not disposed of almost immediately are not fit for consumption. Fresh water fish when cured or smoked are quite good and tasty but still below standard in comparison with sea fish; also fresh water fish are too soft-bodied for canning. During the session it was reported that experiments with canning of soft-bodied fish are encouraging and canning can be done quite successfully after pretreatment.

The population of Ceylon is rapidly increasing and this Island has one peculiarity, namely that though it is an island it is at the same time a fish importing country.

The present task is to prepare for the time when fresh water fish will be expected to contribute to the feeding of the people: to find suitable species for breeding, find proper methods of harvesting from reservoirs, methods of preserving, etc. But the biggest task is to break the prejudice against fresh water fish and to develop proper methods of marketing, taking into account its perishability (Cold storage, curing, canning, fish meal production, etc.).

Underwater Tropical Paradise

By ARTHUR C. CLARKE
in "Air Ceylon Review"

Arthur C. Clarke, widely known for his fiction and non-fiction books on space travel, has spent much of his time in Ceylon with his partner, Mike Wilson. They have written a book describing their 1956 expedition to the Island—"The Reefs of Taprobane".

DURING the last few years the development of new techniques for underwater exploration has, almost literally, opened up a new world to mankind. The sea is no longer a place of mystery and menace, peopled with strange and hideous monsters. It is the playground of millions, from those who flipper around with mask and snorkel in the shallows, to those who go the whole way with compressed-air breathing apparatus and underwater cameras.

This vastly increased interest in the sea and its inhabitants has had some unexpected by-products. It has made scientists, engineers, explorers, food production experts, geologists, as well as tourists and holiday-makers, look with new eyes on the two-thirds of our planet which we often tend to ignore. The conquest of the ocean abysses, like that of space, is a task for the next generation; but the shallows are already open to us whenever we wish to enter them.

Countries which lie in the tropics and are therefore perpetually lapped by warm seas teeming with colourful life are of particular interest to the underwater explorer. This is the reason why my partner, Mike Wilson, and I decided to investigate the coast of Ceylon, though when we made our first visit in 1956 we did not expect it to yield so much material that we would make the country our permanent base for future underwater activities.

One of our specific reasons for coming to Ceylon was to study the pearl-beds in the north, which we thought would make an interesting contrast to the Australian pearling grounds we had visited during our investigation of the Great Barrier Reef. Indeed, the contrast could hardly be greater. The Australian industry is flourishing—that of Ceylon completely moribund, there having been no major fishery for

almost a lifetime. Yet the pearls are there, and could now be obtained with infinitely greater ease than in the past, by providing the divers with the modern face masks which enable them to see clearly underwater instead of groping through a fog. Why nothing has been done about this possible source of revenue is a complete mystery. The divers are available, as are the boats. It would cost perhaps ten rupees per man to fit them with the masks which would increase their efficiency two or three hundred per cent. Surely cultured pearls have not so depressed the market that there would be no sale for the genuine stones which have made Ceylon famous for centuries!

Perhaps this is an example of ignorance rather than apathy. Apart from the fishermen—a somewhat depressed and despised category—we found that most Ceylonese simply do not appreciate the potential that lies in the sea round this Island. If they did, they would not for one moment tolerate the criminal lunacy of dynamiting, which is rapidly turning some of these waters into barren deserts. On several of our expeditions—notably to Trincomalee and Matara—we encountered the dynamiters at work, and we wish that the fisheries inspectors, legislators, police officers and magistrates concerned could see the havoc which is wrought by this practice on the sea-bed.

If any cultivator harvested coconuts by chopping down the trees, he would not be allowed to keep his land long. Yet this is the exact equivalent of dynamiting, which kills the immature fish before they can breed, destroys their shelter and food, and leaves the sea-bed looking as if a hurricane had swept over it. Revisiting some of our favourite underwater scenes a year after our first expedition was heart

breaking ; what had been colourful coral groves, alive with fish of all sizes, were now submarine deserts. In a few years, at this rate, there will be no fish at all in many areas, and a major source of the country's food supply will have been destroyed. Yet this ruinous waste could be stopped by a determined campaign, aimed at the men who profit by dynamiting and who supply the explosives to their minions.

A country's wild-life is one of its greatest treasures ; this is true in the sea as well as on the land. Ceylon has gained many friends abroad through the export of tropical fish, and this fascinating industry may one day make a considerable contribution to the country's goodwill as well as its finances. Aquarium-keeping is a rapidly-expanding hobby, particularly in the United States, perhaps because many people who have gone underwater feel the urge to decorate their homes with the beautiful creatures they have encountered there.

There can be no doubt that from now onwards an increasing number of visitors will come to Ceylon with the primary object of seeing its underwater attractions ; indeed, since we published *The Reefs of Taprobane* we received many such enquiries, and have been able to help the Government Tourist Bureau to compile a special brochure for skin-divers round these shores. Quite apart from its natural features, the Ceylon

sea-bed is rich in wrecks, as might be expected of a country which has been a centre of maritime commerce for several thousand years. There are also many submerged features of great archaeological interest ; we have spent a good deal of time investigating the ruins of the Hindu Temple that lies in shallow water off Swami Rock, Trincomalee, and there must be similar relics of the past elsewhere.

There are great—possibly unique—opportunities in Ceylon to make the sea yield pleasure, profit and knowledge. All three would be combined in the most striking manner if funds could be obtained to set up a really large and well-stocked aquarium at some central site in Colombo. There are very few types of entertainment which have such a wide public appeal, as is proved by the number of multi-million-dollar aquaria established in the United States. (When "Marineland" was opened in Florida, the roads for miles were jammed with cars). I do not suggest anything on this scale, but I am convinced that an investment of a few lakhs in this direction would soon pay off handsomely. Such an establishment would be of the greatest scientific value—and as its fame spreads it would be one of the first items on every tourist's itinerary. Who will seize this opportunity first—private enterprise, for some far-sighted Minister ?

PEARL FISHERY

DEPARTMENT PLANS TWO PEARL FISHERIES

THE Fisheries Department is planning to hold two pearl fisheries, the biggest ever, one in 1960 and the other in 1961, to harvest about 50 million mature pearl oysters off the coast of Mannar.

About 25 million oysters will be harvested in the first fishery and the rest in the following year. In the 1958 pearl fishery about five million oysters were harvested.

An official of the Ministry of Industries and Fisheries told "The Times of Ceylon" that investigations by Fisheries Department officers had revealed that the sea-bed off the Mannar coast contains a very large number of pearl-bearing oysters which would be ready for harvesting next year.

The fishery was being divided to enable the department to handle it efficiently.

He said the Ministry had not decided on the disposal of the oysters.

A proposal now being examined is to rot the

raw oysters mechanically and sort out and value them and sell them after calling for world-wide tenders.

In the 1958 fishery raw oysters were bagged and auctioned to the public. That method, the official explained, was unsatisfactory.

At present, the Fisheries Department is conducting experiments in rotting raw oysters mechanically.

The dredge method will again be used to harvest the oysters.

Times.

28.7.59.

HEAVEN HELP POOR OLD LANKA

By R. L. SPITTEL

I HAVE read, with some dismay in "The Times of Ceylon" of July 28th that the "Fisheries Department is planning to hold two pearl fisheries, the biggest ever, in 1960 and 1961, to harvest about 50 million pearl oysters. The dredge method will again be used."

Heaven help poor old Lanka!

In 1958 the Fisheries Department dredged about five million oysters and auctioned them to the public. They seem to have been quite satisfied with the results or they would not now be thinking in terms of 50 million oysters to be rasped off their banks by dredging.

It would be interesting to have facts and figures of the oysters harvested last year. Did the auctions prove profitable? Even if they did, they are no criterion to justify a repetition of the procedure—unless the pearls found in the oysters were of marketable quality and good value.

I have not heard of really valuable pearls having been found by anyone. If anyone has, I feel sure the public would like to hear about them.

Pearl oysters reach maturity when they are about five years old. Those are the oysters most likely to have good pearls. The great majority of oysters dredged last year were, to

the best of my knowledge, immature—not more than about three years old.

I bought 2,000 oysters at Rs. 40 a thousand during the last days of the auction.

Others who had bought them earlier paid much more. All I found were a few hundred seed pearls, some barely visible, not worth the taking. There were three or four about the size of a peppercorn.

I know of others, who bought more oysters than I did, and have been sorely disappointed.

It is, of course, admitted that the buyer of pearl oysters is purely a gambler. Louis Kormitzer, the great authority on pearls, has said: "Not one in a thousand shells holds even seed pearls or small baroque, and of all grades of pearls found in the whole catch, there is no more than 5 per cent that matters."

This seems to me all the more reason why the oyster-beds should be scrupulously explored visually (as can easily be done in these days of aqualungs, etc.) before being subjected to blind dredging—or better still that divers themselves, provided with simple modern equipment—face-masks and flippers—should do the picking. It will give employment to many chank divers and others on our coasts, quite competent to do so.

Finally, I cannot do better than quote Arthur C. Clarke: p. 227.

"One of our specific reasons for coming to Ceylon was to study the pearl-beds in the North, which we thought would make an interesting contrast to the Australian pearling grounds we had visited during our investigation of the Great Barrier Reef. Indeed, the contrast could hardly be greater. The Australian industry is flourishing—that of Ceylon completely moribund, there having been no major fishing for almost a lifetime. Yet the pearls are there and could now be obtained with infinitely greater ease than in the past, by providing the divers with the modern facemasks which enable them to see clearly underwater instead of groping through a fog.

“ Why nothing has been done about this possible source of revenue is a complete mystery. The divers are available, as are the boats. It would cost perhaps ten rupees per man to fit them with the masks which would increase their efficiency two or three hundred per cent.

Surely, cultured pearls have not so depressed the market that there would be no sale for the genuine stones which have made Ceylon famous for centuries ! ”

Times

30.7.59.

SEAFOOD COCKTAIL

By LEANDER
in the *Observer*

THE Ceylon fisherman catches his ton of fish in quite charming ways; and anyone interested had better watch him at them now, while he still practises them, before all that is left of him is an oily wake in the water and a wisp of smoke on the horizon, putt-putting away towards the vanishing-point that is called progress.

The most beautiful way of all—I am omitting, of course, fishing from boats, whether dhonies, outrigger canoes, vallams or catamarans—I remember from childhood days in Point Pedro. There the men used to spear their fish at night, naked men, the half of their bodies blue with moonlight, the other half bronzed with the red glow of the flares they carried arms upraised, the one lifting the smoking torch that with every puff or breeze flung a shower of sparks hissing into the water, the other poisoning the spear, a wide-pronged trident-like Neptune's own. Thus armed and poised they would wade at high tide about the furlong-wide reef. Suddenly the supple bodies would tense, the spear-arm shoot down the torch spurt and blaze with the jerk.

What if there wasn't always a fish on the rusty tines to toss into the creel when the spear was withdrawn? This was the poetry of nutritional economics and everyone knows that poets are poorly paid.

No better paid but nearly as poetic are the *fisher girls of the Karaitivu lagoon*. This is the lagoon that lies to the east of the Jaffna

Peninsula, between the mainland and the first eastern island. The road to Kayts runs across it over a causeway straight as a stretched thread. It is a beautiful road, the lagoon is wide. On either shore is white sand backed by a black palisade of palmyra palms and on either hand in the shallow water are the fisher girls.

You don't want to look at them too close; they lead a hard life, and nothing shows wear like the human frame. But at the distance at which they stand they could be creatures of the sea itself, their wet cloths and shining bodies dyed all the more vividly by the water. Their only garment is a cloth of crimson or royal blue or peacock green bound around their breasts and tucked up above their knees, and their shoulders and thighs gleam and flash like metal where the sun glances from them.

What are they doing? Fishing, I tell you; each contributing her share of prawns and sprats to the ton her man will chalk up to himself in the year's course. Poor girl, all she's got is an open-bottomed conical basket like a chicken-coop with a hole in the top. When she sees a fish or small shoal of fishes, she jabs her basket down over them to the floor of the lagoon, puts in her arm through the hole at the top and seizes the fish (if any) by hand. If any. Not many. But she looks like a goddess at her job.

At *Pauimunai* on the northern coast of Mannar just across the island from the fort is a large village where the inhabitants are of ruddy complexion and many have light eyes

and all are Roman Catholics and bear Portuguese names. I once accompanied a fishing expedition from that beach.

We set out in two vallams, outriggerless dug-out canoes. One carried the gear, the other the personnel. The gear was a shallow net strung up on sticks, like a fence; and a long string of streamers of strips of palm leaf such as we hang along Galle Face to welcome visiting dignitaries. The personnel consisted of a boatload of fishermen (about eight excluding the vallam crews) all with expressions of set purpose as of men on a serious job and in no sense on the spree.

About three-quarters of a mile out the vallam crews stopped paddling and to my no little surprise, tumbled out of the boats. We were over a sandbank and the water was no more than chest deep. The fence-like net was carefully unrolled and the sticks from which it was slung were planted upright in the water. Then the vallams carried the men back a couple of hundred yards and disembarked them again.

This time the string of palm-leaf steamers was unwound and the men stationed themselves at intervals along its length; and then, with much shouting and slapping of the flat of the hand on water they began to advance towards the standing net, followed by the vallams whose crews belaboured the hulls with sticks and splashed furiously with their paddles scaring (in theory) any fish that had been cruising about into the deceptive meshes waiting to entangle them.

The only things in the net were about a dozen small fishes, snappers and two large holes left by the big ones that got away!

We made a second run less productive than the first, and then we went home. Nobody was pleased, but nobody was despondent, this was fishing, just a job.

In the south—*Debiwela*, for instance where I have many friends among the fishing community—the hauling home of the *maha dela*, the great seine, is much more of a social occasion—even the women and children pretend to join—and conducted in much higher spirits; but the result is often no more spectacular.

I have seen it come in with the big purse bursting with silver.

But even more often I have seen it with only a few small sardines or anchovies spangling the heavy mesh—and that after all the labour of rowing the *maha del paruwa*, a heavy and ungainly flat-bottomed barge, and paying out the half-mile net, and hauling it in heart-breakingly heavy with nothing but the sea, a half-day's fruitless labour.

And what of the fish traps, one *V-shaped fence of close sticks* leading into another, round which the fisherman hopefully paddles twice a day to see if anything has swum in and been unable to swim back out?

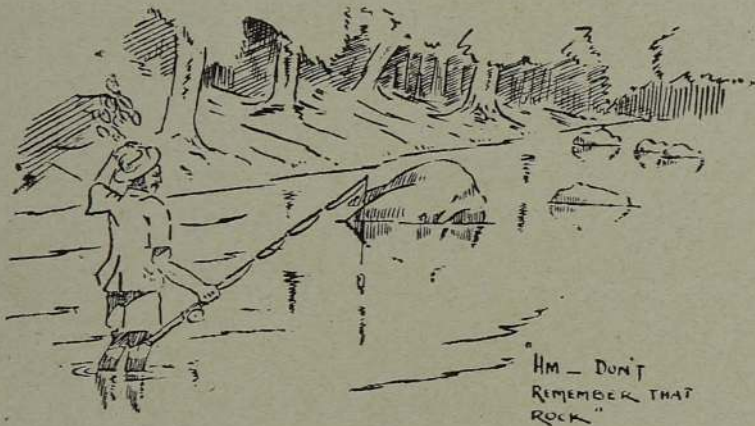
It happens of course. But it never happens often or profitably enough. For these quaint fishing methods are means of livelihood, remember; not just pranks. These are important ways in which the fisherman collects his annual ton of fish.

But for sheer insouciance, for triumphant repudiation of the necessity for an economic return, commend me to the old Muslim fisherman I watched for an hour from the jetty at *Kalpitiya* catching prawns. In that time he caught seven. That was good going, too! For he had reduced simplicity and in dependence of the machine to its basic terms. He was catching prawns by lassoing their stalk-like eyes with a noose at the end of an *ekel*! My own eyes were popping, too, I think.

A FISHERMAN'S STORY

By A FISHERMAN'S WIFE

THE little Heppel-Oya is peaceful, not far away, and seldom fails to yield a fish. On the days when they are shy of the silver lure there is always bird-life in infinite variety to be seen and heard. We find tracks of deer and pig, and the butterflies are gorgeous. A blue mormon poised on an asoka blossom is an exquisite poem in colour.



"H'm Don't remember that roc'k"

We go there so regularly that we know where to find our favourite birds just as easily as the best fishing stretches. We can show you the haunt of the three-toed kingfisher, the favourite beat of a stork-bill, paradise flycatchers, horn-bills or a fish owl. Always we have the song of the shama, the barbet's hoot, and the little blue common kingfisher zipping up and down the stream-bed.

It is a gentle river, forever being remoulded by the floods, so that last year's pool becomes a sandy shallow and a fallen tree can change the whole stream's course. And that is the whole point of my story, because an unfamiliar object in a pool surprised Harry so little that he cast within feet of a wild elephant.

"I thought it was a rock," he explained. "I didn't remember seeing it before, but I wasn't really thinking. And I cast so that my spoon would come back gently between the 'rock' and the bank. Then an ear flapped. It was about my fourth cast too!"

Apparently the wind was all wrong for old "Aliya", lying comatose with his head upstream. Even a whistle did not rouse him. Finally a loud cough brought his trunk up to explore the air, and then he climbed slowly to his feet. He stood facing Harry, trunk moving questingly, took a step forward, and then turned to make his way up the opposite bank with short irritated trumpets. There was the crack of a branch or two broken and flung down, and then he moved off into the jungle.



"Blimey!"

"Blimey!"

In the late afternoon we went down with the camera. I think Harry doubted if even his wife would believe the story without seeing the tracks. They were there all right, and we went on down-stream a little hoping he might have returned for an evening bathe. He had—and we nearly ran into him. Just a grey mound, quite immobile, he was part of the river landscape—nothing but a dusty age-old rock. He neither scented nor saw us, and Harry took a picture at about 25 feet. Then he crossed the river (I having moved to a safer distance), and coughed. At the by now rather familiar sound there was a speedy reaction. Somehow all four legs seemed to go up into the air before they propelled a very irritated animal to his feet and up the bank into the jungle. It was nearly

5 p.m. and our camera is not a good one, but we have snapped him unmistakably.

The following week he was there again in mid-morning. Sitting, watching, we tried to see his trunk, and finally located just the tip resting against his body. There was a slow rhythmic sound, too. He was snoring.

The third week he was higher up-stream, almost in a village area, lying in a pool. His reaction to disturbance was always the same—the questing trunk, and then the retreat. Several

weeks passed before we came again, and there were only the old tracks left. The river was very low, and I expect he had moved off to where the pools were deeper.

Enquiry has brought forth the information that this may be a “Killer”. He has a short tail, and there are scars on his back. If so we were extremely lucky to find him in such a peaceful mood. But I am glad he has gone, because he really was spoiling the fishing.

Kruger

By PHILIP K. CROWE

THE grazing animals and the flesh eaters which hang on their flanks are growing scarcer in South Africa. Yearly the relentless pressures of civilization force them further and further back into the few remaining wilderness areas. There are still sections of Mozambique and Angola where game, due largely to lack of roads, can still be found, and the vast emptiness of the Kalahari Desert in Bechuanaland and the Etosha Pan area of South West Africa also hold fair numbers of the great and small fauna, but in the Union those who wish to see all types of wild life must go to the game parks.

And the Union is lucky in her parks. Kruger encompasses 8,000 square miles, and offers to the naturalist and tourist alike a superb view of virgin bush country where virtually all the indigenous game, with the single exception of the Rhino, roam at will. Look it up on the map and you will find that the Eastern frontier starts at the foot of the Drakensberg escarpment where the mountains throw long shadows over the veld and the Western boundary rides along the slopes of the Lebombo Hills which form the border of Portuguese Mozambique.

The Transvaal, the Province of the Union where Kruger lies, is divided into three altitude zones: the high veld or that above 4,000 feet; the middle veld or the land between 4,000 and

2,000, and the low veld, which is below 2,000. Kruger, whose altitude varies from about 900 feet above sea-level to 2,000, lies entirely in the low veld. Although it is drained by some substantial perennial streams such as the Crocodile, Sabi, Oliphants, Limpopo and others, the land suffers from drought and during the completely rainless periods of winter—the months of June, July and August—the animals leave the baked plains and drift toward the rivers and the man-made bore holes.

Most of the roads of the park run near these watering places and in the winter it is possible to see a great variety of game. But before enumerating the animals, I must describe the land they live in as it appeared to me during my first trip to the park in the middle of June, 1959. Our approach was dramatic. From the heights of the Drakensberg, which rise to 7,000 feet, the low veld is a vast flat land of brownish bush flushed here and there by the delicate greens of the “umkua” or wild fig, and the darker green of the “umkudhlu”, or Cape Mahogany. Open park lands alternate with areas of dense bush and reminded me of similar jungle pastures in the game reserve of Yala in Ceylon where I spent so many happy days. The dominant tree family in both areas is the Acacia, the deciduous thorny tree whose

spikes make progress painful to humans and provide tasty snacks for elephants. The prevailing colour is the tawny dry grass of the bush into which the yellow and brown hides of the animals blend so perfectly.

Entering the park at the hamlet of Orpen where we paid a modest fee, we travelled (a) never more than twenty-five miles per hour along the excellent dirt road to Satara, the camp where we spent the first night. These camps are self-contained villages where everything from living quarters to food is obtainable. The former consist of round thatched huts called "rondavels" containing twin beds, a shower, toilet and wash basin, all of which are spotlessly clean. One can either eat at the camp restaurant or bring food and have the camp boys cook it. The camp is surrounded by a barbed wire stockade, a comforting thought when the roar of the lions and the squeals of the elephants split the silences of the night.

Word of our arrival had been sent from headquarters in Pretoria, and Henry Wolhuter, the chief ranger, was on hand to take us around. A lean dark young man of about thirty, he is the son of Harry Wolhuter, the famous warden who once killed a lion with a hunting knife and whose book "Memories of a Game Ranger" is a classic of the park. As we drove out in the grey dawn Henry told something of his life in the bush. It is not an easy one; he said he had walked fifteen miles the preceding day, but it is one he loves and would not trade for all the gold in Johannesburg. There are only a handful of these devoted young men—ten white rangers and a staff of 200 Shangan tribesmen cover the whole Park.

In the old days these patrols were carried out mounted as well as on foot, but today the ubiquitous jeep has taken over from the horse although horses are still available at some of the camps, and I am hoping that at some future time I will be allowed to accompany the ranger in this pleasant manner. The grazing animals regard a horse and rider as simply another form of wild life and as a result it is possible to get

very close to them. There is, of course, the remote chance that a lion might view one's steed in the light of breakfast, but there are no records of mounted rangers being attacked. Lions occasionally attack men on foot and not long ago a lioness killed and ate one of the native staff. The lioness had lost a paw in a trap and was accompanied by her cubs, two good reasons for her vindictive actions. She was soon hunted down and shot.

Wolhuter told us that poaching is his greatest problem. Despite stiff penalties native hunters from both Mozambique and the Union trap, poison and shoot the game. The flesh is either eaten by the poachers or sold as biltong. No attempt is made to peddle the hides. Jail sentences ranging from six months to two years are meted out by both the Union and Portuguese authorities, but so strong an attraction has illicit hunting that most offenders are caught numerous times. This failure to regard game as anything but meat on the hoof is a common fault among the more primitive Africans all over the Continent, and it is hoped that with independence they will realize that game parks are unique cultural heritages that they have not more right to despoil than they would a priceless library.

Lion and buffalo are the two great animals which as a hunter I respect most, and they were the ones which I most wanted to see in the Park. I was not to be disappointed. About ten miles from Satara on the road from Orpen we saw a cloud of dust rolling along the veld about fifty yards from the road. As we progressed and I was able to focus the binoculars, I saw that the dust came from a great herd of Cape Buffalo. Galloping on a front of about forty yards, the herd tailed out for as far as I could see. Then I noticed a relatively small animal racing in front of the leading bulls and thought for a moment it must be a calf. Closer inspection, however, revealed that the "calf" had a yellow hide and then of a sudden it climbed an old dead tree and I saw that it was a big male lion. The trunk of the dead tree

slanted at about sixty degrees and ended some twenty feet above the ground where the rest of the tree had broken or rotted off, and it was to this extreme tip of safety that the lion fled, and crouched, tail between his legs, like a house cat treed by a terrier. Meanwhile the old bulls charged up, surrounded the tree, pawed the ground and bellowed. They continued this menacing ring for about twenty minutes and then moved slowly off into the veld. Then and only then the lion climbed slowly and stiffly down from his perch.

Wolhuter told us that there are about 800 lions in the park or about a lion for each ten square miles of territory. The lions feed mainly on Impala as there are far more of these than other grazing species. A lion can live about 30 years and in the park, where it has no natural enemies, probably does. The males weigh close to 500 pounds and can charge at fifty miles per hour for short distances. So accustomed have some of the lions become to cars that two lionesses, about which we heard, have been seen using automobiles as cover for approaching their quarry. Trotting along almost under the wheels they were able to get within a few yards of trustful Waterbuck cow before they suddenly shot around either end of the car and drove home their attack. Both lionesses hit the Waterbuck at once, one landing on her back and breaking her neck and the other seizing her by the haunch.

There is a wonderful variety of buck and we saw many of these graceful creatures. Sable Antelope with their horns like twin scimitars; the corkscrew horns of the Kudu bulls; the little awl-like horns of the huge Eland; and the long stabbing rapiers of the handsome Gemsbok. Both the Eland and the Gemsbok are able to live without water for months on end and therefore survive in great numbers in the Kalahari Desert. Of the small antelope the Impala are the most common and in many ways the most interesting to watch. Frightened, an Impala can leap a 35-foot stream and can clear a ten-foot fence.

The park is full of zebra and I never tired of watching these little striped horses as they switched their tails and cantered over the veld. When alarmed zebra are capable of running at forty miles per hour. Giraffe are also plentiful, and we found them in small herds browsing on the tops of trees. Giraffe are sometimes attacked by lions but their keen eyesight and commanding position, plus a turn of speed—better than thirty miles an hour—usually allow them to avoid becoming a large dinner.

We saw five elephants and one very close. The African elephant is much larger than his Indian and Ceylon cousins with which I am familiar, and with few exceptions has never been domesticated. African elephants weigh six to seven tons and stand eleven feet high. As in the Indian variety, twice the circumference of the front foot gives the approximate height. Record tusks measured 11 feet 5½ inches and 11 feet in length, and record weights are 214 pounds and 226 pounds for a pair. An elephant cow carries her calf twenty-two months while a rhino mother only has to lug hers around for eighteen months. As I noted above, there are no rhino in the park now, the last specimen having been seen in 1936, but consideration is being given to importing them from Natal where they are preserved in the provincial parks. Rhino, however, are very prone to charge and their horns, backed by three tons of weight, can make a shambles out of any automobile.

In a pool of the Lower Sabie river we saw a family of hippos floating placidly, while near them on a sand bar were stretched two twenty-foot crocodiles. The baby hippo was unconcerned: he knew the crocs knew that his mother could slice them into two pieces with her huge incisors. The record length of a hippo's incisor is almost 24 inches, and the record length of its canine tooth is 48 inches. Wolhuter told me that the young crocs live mainly off the Tiger fish and Bream with which the park rivers abound, but as they grow older they turn to animals. He said there are several

instances of crows grabbing full-grown lions when they came to the river to drink.

Like all self-respecting communities, the bush needs its clean-up squads and the Brown and Spotted Hyaenas aided by the jackals and the vultures do this necessary job. We flushed a big Spotted Hyaena off a zebra kill and the minute he lumbered away the jackals and Black Vultures moved in to feed. A reproachment seemed to have been worked out as they ate side by side. There are three varieties of mongoose in the park, but we were not able to identify the one we saw. I shared many a moonlight night in Ceylon with mongoose while they fed on my leopard bait and in a sense kept me company in the long watches before the approach of the big spotted cats drove them away.

Many sounders of Warthog, looking like families of trippers out for a Sunday stroll, were abroad. The Warthog with his huge tusks is a ferocious-looking customer, but in actual fact is nothing like as dangerous as the old boar of India and Ceylon or even the cornered bushpig of the African veld. The record length for a Warthog's upper tusk is 24 inches. When they run the sounders hold their tails stiffly erect like so many little flag-poles.

The park has a varied and handsome collection of birds, and I wished that John Hanes of Washington or Dillon Ripley of New Haven could have been with me to identify them. As it was I had a good pair of binoculars and an illustrated book of reference. According to the experts, there are about 10,000 species of bird on earth, of which about 900 are found in South Africa and more than 400 of these have been seen in Kruger.

The first I recognized was a Cattle Egret as it is similar to the Tick Egrets that live with the water buffalo in the East. The Cattle Egret, however, does not seem to ride the buffalo as the Eastern variety do, but follows herds on the ground and eats the grasshoppers and insects which it disturbs as they graze. The only other member of the Heron family that I recognized was the sacred Ibis, the bird which

the Egyptians called the "Father of Sickles" on account of its presence in uncounted thousands after the Nile irrigated the land. The Marabou stork is common in the Park and I saw several. Although a stork, whose nominal job is the bringing of pink and white babies, the Marabou has gone down in the world and become a carrion eater. With its bare pink head crowned with bristles and its sagging red neck pouch, the Marabou is the ugliest bird I think I have ever seen. The native superstition that the heads of these birds contain a stone which is an antidote for poison has led to their slaughter outside the Park. The real "baby stork", the white stork, migrates from Europe to the Park but I did not see one.

The birds of prey are well represented. I spotted a Bateleur Eagle sitting on a Mopani tree, and recognized it quickly due to its almost complete lack of tail. This absence of a rudder makes flight for the Bateleur awkward and they rock from side to side as they steer with their wings. On the Lower Sabi I saw a Fish-Eagle eyeing a pool where tiger fish were rising. The Fish-Eagle with its white head, brilliant russet feathers and bright yellow legs, is a pleasure to see. The vultures are also birds of prey, but they let others do the killing. In addition to the Black Vultures, I saw several White-backed Vultures, which are easy to identify due to a white patch on their backs. There are many kites, kestrels, and falcons, as well as the Chanting Goshawk, the Banded Harrier-hawk and other noble birds of the chase, but so fast are most of them that I was never really able to identify them.

Twice in the evening I saw a wedge of geese flying high over the bushveld, but the sun was setting and they simply showed dark against the crimson sky. They might have been Spurwing Geese or Egyptian Geese, the emblem of Seb, the father of Osiris. They might even have been Knob-billed duck, the large duck that flies like a goose and removes its young from their nest on its back.

The man primarily responsible for Kruger

and its wealth of bird and animal life was James Stevenson-Hamilton. Two months after the Boer war ended with the peace treaty of Vereeniging on May 31st, 1902, he was appointed first Game Warden of the Sabi Game Reserve and began a career which was to last for forty years. Skukuza, the native name meaning "the man who changed everything", was given Colonel

Stevenson-Hamilton and the headquarters of the Game Reserve was named after it. He wrote of himself, "for me the pathless jungle, the reed-fringed rivers with the wild call of the fish-eagle ringing down the long reaches, and the still warm nights, their silence punctuated by the throb of the lions' roar."

The "Veryan" Magpie Robins

By R. C. WALL

SO many of my friends have asked about the Magpie Robins, whose sanitary arrangements I described in the June *Loris*, that I thought a few more details about this little family might be of interest.

To begin with—the nest box. This is a small wooden box wired to one of the verandah pillars on the East side of the bungalow with the opening facing South. The box is tucked in under the overhang of the roof and so is invisible and more or less un-get-at-able to crows and other pests and is completely protected from rain and gales. There is a bar fixed in front of the opening on which the Robins land.

I put this box up five years ago and the then current pair of Magpie Robins in the garden at once moved in and built in it. Since then it has been regularly used every year. There has been a new "Poppa" each year but "Momma" is the same old original one, who first introduced herself to us five years ago by coming and helping herself to bits of the dogs' food when it was brought to the table on the verandah to be mixed.

In fact it was because she came to the verandah so regularly that I thought of putting up the box for her, which has been so successful and given us so much pleasure and, possibly, made things easier for her.

After each family has left the nest, I clean the box out completely and Momma re-makes it

when she wants to use it again. Once I left everything as it was and Momma did not use the box for her next family but went to another one I had put up in a tree in the garden.

The Robins have about four families each year. The "Production Programme" for this year (1959) may be of interest. It has been:—

8 March	..	Building 1st nest started
15 April	..	3 young robins flew off.
9 May	..	Building 2nd nest started.
13 June	..	3 young robins flew off.
3 July	..	Building 3rd nest started.
11 July	..	Momma started sitting.
24 July	..	Young hatched (eggshells found on lawn).
8 Aug.	..	4 young robins flew off.
27 Aug.	..	Building 4th nest started.
30 Aug.	..	Momma sitting.
15 Sept.	..	Young hatched (eggshells on lawn).

I do not know yet how many there are in this third family.

It has been the greatest fun having these little robins about the place all the time. We have breakfast on the verandah every morning and there is always a saucer of chopped meat on the table as well as food on the bird-table on the edge of the verandah.

All through the year this food is very gratefully accepted and particularly so during the

nesting season. Tits and bulbuls will always come to the bird-table and the robins too, but these last will also come and have breakfast with us.

Momma, in spite of knowing us for five years, never gets any tamer. She comes and has breakfast at the table with us every day, and, during the periods of feeding babies, very often brings them too. All this within a couple of feet of us. She has allowed herself to be filmed



The hand that fed it

at two feet range, feeding her babies on the bird-table but that is as far as she will go.

Actually, I did not try, until last year, to get any of the robins tamer than that but then I thought I'd try to get them to come to my hand.

Three babies, Fluffy, Brownie and Claude, a

family born late in the season, had recently left the nest and had learned to feed themselves almost entirely and only very occasionally bothered the parents for food. They had got quite used to taking food from the saucer on the breakfast table. The parents appeared to have no immediate plans for another family and so left the three in peace and did not chase them away.

I decided to try to get these babies to come and feed from my hand. I held the saucer and showed it to them and "talked" to them. After a couple of days, Fluffy and Brownie hopped onto the table on which I was sitting and came and fed from the saucer which I was holding.

Two days later, Fluffy, who was rather a forward young girl, hopped onto my hand and ate some of the food I was holding in the palm. Brownie, a boy, came and stood on the table and fed from my hand but would not hop onto it. Claude would not come anywhere near.

Fluffy and Brownie used to sit in a bush about 25 yards from the verandah and wait for me. When I "called" them they used to fly at once—Fluffy straight onto my hand and Brownie onto the table close to it. Brownie would also come anywhere in the garden if I "called" and sit on the grass by my hand and eat from it.

The photo reproduced here shows Fluffy on my hand and Brownie, just visible in the background, waiting his turn to feed.

This went on for quite a long time and then the parents started feeding another family and chased Fluffy and Brownie out of the garden. Fluffy, unfortunately, disappeared completely but Brownie must have hung round somewhere because he came back and is the Poppa for this year. He will no longer come and feed from my hand but always has breakfast with us every day.

Three of the youngsters who flew from the nest on 8 August now come and demand food every morning when I am having my breakfast. One comes onto the table and helps himself.

A few days ago I held the saucer and he very nearly came to it, but just could not summon up enough courage. I am hoping that he (I think he's a "he") will do so soon. It would be ripping to get another robin as tame as Fluffy and Brownie were.

Brownie is a grand little chap. Always ready to stand up for Momma or any of the children against bulbuls or anyone else, including, on one occasion, a very large rat-snake. I was having breakfast and Brownie was on the table when there was a sudden terrific commotion. Birds and tree-rats shouted all over the place. Brownie flew off and I saw him dive down five times at something in a flower bed, cursing hard all the while. It was behind a bush from me and when I stood up to see what it was all about, I saw this huge snake, which had been coming towards the verandah where Momma was sitting on the nest. It turned and rushed

away when it saw me and later appeared again, when I was able to shoot it. It was well over 6 ft. long.

Brownie has an amusing habit of what I call "helicoptering", when he flies about with his legs hanging down and all the feathers of his body standing up and makes a sort of chirruping noise. This seems to happen when Momma has laid her eggs and begins to sit. Then for a few days he comes to breakfast as usual, has a good feed himself and then takes away a piece of meat and gives it to Momma in the nest. Whenever she goes off to feed, he stands on the bar in front of the box and keeps guard and always greets her with this funny little chirruping noise when she returns.

We are hoping very much that he will stay on after the nesting season is over and not disappear like all the other Poppas have done in the past.

BIRD WATCHING IN COLOMBO

By E. B. WIKRAMANAYAKE

IN *Loris*, Volume I, page 17, Dr. Lucius Nicholls gives a list of 71 different species of birds identified by him in Colombo.

In *Loris*, Volume 5, page 76, Mr. D. F. Armitage adds a further 17 to the list. The following further additions may be made.

CHESTNUT BITTERN.—In 1937 an adult Chestnut Bittern was found in a garage at Wellawatte and sent by me to the Museum. On 14 November, 1955, when I was Minister of Justice the Attorney-General came to me to say that his peon had caught a strange bird in the Law Library premises which he wanted me to identify. I went there and found it to be a juvenile Malay Bittern.

RINGED PLOVER.—On 2 January, 1954, I saw a number of Ringed Plover on the Sinhalese Sports Club grounds at Maitland Place. I saw them again on the 22nd March.

DRONGO CUCKOO.—In January, 1952, I found a Drongo Cuckoo in my garden in Bambalapitiya.

It was quite tame and took its perch on a tree close to the house where it would occasionally swoop down on some grasshopper.

TERNs.—On 13 October, 1956, a Brown-winged Tern was found in my garden at Mount Lavinia. It was quite exhausted and unable to fly. When it had sufficiently recovered it was released. On 16 November, 1957, a Sooty Tern was found in the same garden in a similar condition but it died. Both birds were identified for me by Major W. W. A. Phillips.

The following further observations may also be of interest :—

RED-WATTLED LAPWING.—Armitage records that in January and February, 1949, one or two of these birds spent some weeks on the marshy ground adjoining the Ridgeway Golf Course. But these birds are now resident on the Sinhalese Sports Club grounds at Maitland Place and their "Did-he-do-its" can be heard any day in the year. In July, 1957 a pair nested there and

members used to find amusement in the evenings trying to spot the young birds. In *Loris*, Volume 7, page 213, I have described what is probably their courtship display which I observed there.

THE INDIAN ROLLER.—This bird is also quite common in Colombo now. Many a time when playing cricket I have seen one or two of these birds flying about the grounds and one day when we went to take the field after tea I found one of them perched on the middle stump. I have been told that young Rollers were once picked up in Bullers Road, so the birds probably breed in Colombo.

GOLDEN PLOVER.—A flock of Golden Plover has been visiting the Sinhalese Sports Club grounds for several years now. They come in December and linger on till about April. In April, 1955, particularly there were quite a number in summer plumage.

To the 88 species listed by Nicholls and Armitage may be added the five identified by me which brings the total to 93. In *Loris*, Volume 7,

page 346, Major W. W. A. Phillips records having seen on the Galle Face the Fantail Warbler, the Ashy Wren Warbler, the Brown-headed Gull, the Large Crested Tern, the Kentish Plover, The Pale Harrier and possibly Ward's Pied Thrush and the Small Cuckoo.

That brings the total to 101. But this does not exhaust the possibilities. Douglas Raffel stood up and cheered at the sight of Pintail Ducks in Colombo (*Loris*, Volume 6, page 344). Another possible visitor to Colombo is the Sociable Lapwing. Henry (*Birds of Ceylon*, page 282) has seen it in October and November for several years on the Colombo racecourse in the company of Golden Plover.

There are just under 400 species and subspecies of birds both resident and migrant to be found in Ceylon. Of these over one-fourth have been recorded in Colombo. A bird watcher therefore has no need to go out of Colombo to pursue his hobby. He can get quite enough excitement at home.

Birdwatching in Colombo and on Bentota River

By VALERIE JONES

LIVING in Colombo we consider ourselves lucky to have a garden. It is not large but it attracts a fair number of birds, some of whom are "permanent residents" while others come mainly to visit the bird bath. None are particularly unusual specimens, but we derive much interest and amusement from watching their daily doings and getting to know their individual characteristics.

Some time ago a pair of Black Robins built their nest in the large tow rope, thus effectively putting it out of commission! It hangs coiled up on the garage wall, where the nest is inaccessible to marauders and photographers alike, and so far the Robins have raised two broods.

Their presence is resented by the Magpie Robins, who nest in a nearby tree, and bring their successive families to spend the day in our bouganvillea hedge as soon as they can flutter. The newest parents in the garden, however, are the Red-vented Bulbuls. One afternoon we were having tea on the verandah when something flew into the back of Alan's chair: a baby Bulbul, still fluffy and tailless, crash-landed on the floor and gaped up at us. An anxious squawk came from a neighbouring bush and Mrs. Bulbul flew onto the verandah steps, her hair—or rather, feathers—fairly standing on end with horror at her offspring's escapade. Alan rose to put the chick back in

the bush, but the baby was more competent than it looked, and rose with a flap and flurry from the verandah to perch precariously in an oleander, closely followed by its harrassed parent.

So far no Sunbirds have nested with us, but we have high hopes, for they come in dozens to the big hibiscus hedge, both the Loten's and the Purple-rumped. Their metallic brilliance makes exotic patterns amongst the scarlet flowers. They visit the bird bath now and then, but like to have it to themselves, not even sharing it with the Tickell's Flower Peckers, who make timid dashes in and out, but find even the shallowest water rather deep for them. The Spotted Munias, on the other hand, are sociable types, whose motto seems to be "the more the merrier", and will cheerfully share their dip with Sparrows, Bulbuls, White-eyes, and anyone equally amiable. From time to time their little flock is joined by a pair of White-backed Munias, but these never stay for long.

In the North-east monsoon a Brown Shrike comes to live in the bouganvillea. The first year he was very timid about the bird bath, and it was a long time before he ventured in, but the following year he had not forgotten, and one of his first acts was to drop in for a drink and a wash. He is a cantankerous bird, and the only resident to stand up to him is the cock Magpie Robin, with whom he has twice come to blows.

Other regular visitors include Tailor Birds, Grey Tits, Brown-headed Barbets, White-breasted Kingfishers, Drongos, Ashy-headed Babblers, those noisy creatures the Koels, and the Mynahs, who are such enthusiastic bathers that the bath has to be refilled when they have finished. Regular but less welcome callers are the Coucals, whom we shoo away when possible lest they discourage the nesting birds. Occasionally a Black-headed Oriole perches in the bouganvillea (where its plumage clashes horribly with the purple blossom!) or a White-breasted Waterhen from the neighbouring marsh flies in with trailing feet and clammers about in the

hedge, looking ridiculously out of its element.

On Sunday mornings we sail our "Wag" from the Royal Colombo Yacht Club, and this offers further scope for birdwatching. Ever present are the Brahminy Kites, their handsome chestnut and white showing to advantage when they soar and circle against the blue sky. The immature birds, speckled brown and grey, somehow give the impression of being a little larger than the adults, and this misled us at first into thinking they were a different species: possibly their softer, less sleek plumage creates this illusion. For such big birds the Brahminies manoeuvre with great speed and precision when picking up scraps from the water, and often eat the morsel on the wing—a most uncomfortable looking procedure! In the North-east monsoon their competitors for scraps are the Brown-headed Gulls. These migrants are in winter plumage when they arrive, the brown head being represented merely by a dark spot in front of the eye. Before they leave, however, they are brown-headed once again, in glossy new summer plumage, making the change all together and with remarkable rapidity. We missed our sailing on a couple of Sundays at the end of March, and when next we went out there were only brown heads to be seen amongst the gulls, where before there had been but a single one here and there.

The gulls confine their activities to the harbour, as a rule, but the terns, preferring fishing to scrap hunting, follow the shoals of small fry out to sea, returning to the harbour to find perches on buoys and mooring ropes, where they squabble noisily for places. The majority of them are White-shafted Little Terns, who fish in flocks, hovering and plunging to capture their fish: often they submerge completely for a moment. Though these terns are residents they migrate locally from the harbour to their breeding places on deserted mud flats and beaches about May, not reappearing in any numbers until the beginning of October, thus coinciding with the overseas migrants. Less numerous are the Large Crested Terns, who are

also residents, and follow the same pattern of local migration as the Little Terns. The Large Crested Terns seldom enter the harbour, but use the "Tartar Rock", "The Sea Lark", and other buoys out at sea for their fishing headquarters.

Very occasionally we have seen Wilson's Petrels, small dark brown birds with white rumps, skimming the wave tops out at sea.

A place not far from Colombo that offers an interesting variety of birds is the Bentota River. This year I had to give up jungle trips while awaiting the arrival of my baby, and so we spent all available holidays at a bungalow on the Bentota Spit. A favourite expedition on these visits was to start early in the morning, take breakfast in the boat, and picnic six or seven miles up the river. The banks soon become wild and uninhabited, lined with tangled mangroves looking dark and mysterious in the dawn light, wreaths of mist rising round their coiling roots. The unruffled water reflects the pale turquoise sky, and Little Terns flutter in clouds over the fish traps strung at intervals across the river. Hunched up in the mangroves and reed beds we have seen, in the course of our trips, most of the Herons and Bitterns listed in G. M. Henry's "Birds of Ceylon".

Some way upriver lies an island with thick reed beds, an ideal place for the small Warblers, and a favourite haunt of Grey and Purple Herons, Whistling Teal, dozens of Waterhens, Kingfishers (White-breasted, Common, and

sometimes a Stork-billed), and masses of Cattle Egrets and Pond Herons. The Little Green Heron is common here, and so is the Little Yellow Bittern. Near the island we usually choose a place to tie up the boat and cook bacon and eggs, for which we are only too ready by that time. We pick somewhere in the shade, for by then the morning is getting hot, and the river's edge is decorated with waterlilies, small yellow and larger pink ones, which open as the sun reaches them.

Apart from birds we have seen some curious sights up the river. Once we saw the extraordinary spectacle of a crocodile eating a python. We could scarcely identify the reptile at first, for only the croc's head was visible: the body, trailing behind, was that of a python. I believe the incident was reported to *Loris* by our host on that occasion, Mr. M. S. Murdoch. On our last visit we saw a large flotilla of jelly fish some four or five miles upstream. They were the "parachute" type I had hitherto only seen in the sea, and it seemed odd to discover them in fresh water: the river is not tidal at that point.

Perhaps the most unexpected ornithological sight was that seen by my husband, when he looked out of his office window and saw a Painted Stork over Union Place.

I think I should finish this with a vote of thanks to my baby son, since it was missing my jungle trips that made me appreciate the bird life within reach of home.

My First Trip in the Jungle in 1891

By T. Y. WRIGHT

A COUSIN of mine in the 16th Lancers, who was stationed at Lucknow, wrote and asked me to arrange a shooting trip, as he was coming down to Ceylon on a holiday. So I determined to go to the Minnery and Polonnaruwa country. I sent off carts and camping

material to Habarane to await us there. We went in the old bullock coach which ran from Matale to Trinco, "Her Majesty's Mail". We got to Habarane in the afternoon and started off with our carts to Minnery that same afternoon. Only 2 miles of the road had then been made;

the rest of the way to Polonnaruwa was just a track. At every stream or gully we had to unload our carts and re-load them when the carts got across. In time we got to Minneriy walking the 16 miles. I was so done I lay on the tank bed and slept.

We eventually ended up in a mud hut and stayed there and pushed on to Polonnaruwa the next afternoon, another walk of 12 miles, and got to the resthouse, which was smaller than it is now. Mr. Jayawardane, the Revenue Officer, lived at Polonnaruwa and was very kind and assistful. We met Harry Storey for the first time here. He was a distant connection of ours.

We sat up over several very nice water-holes and got one or two bears and saw a leopard or two, but did not bag one. We had applied for two licences for elephant from the Government Agent, Anuradhapura. These were refused on the plea that too many had been given out, but about a fortnight later, we were given to understand that licences were issued to an Austrian Archduke. Anyhow when we were in the jungle someone told us to send in a messenger to the A.G.A. Trinco in the Eastern Province. This we did and in a few days we got the licences.

To get to the Eastern Province, we had to go down the Mahaweliganga for about 18 or 20 miles. So we collected two of the ferry boats and placed planks across them and had a delightful journey down the river. We eventually arrived at the junction of two rivers and went down the south arm a short way and camped; we were told we were in the Eastern Province.

We tried to get our elephants. Although we came across a few, we were unsuccessful. So we embarked on our boats again and a few miles up the river the trackers told us there was a good place for elephant. We got off, and about a mile or two beyond we came to a large open swampy plain and spotted an elephant a long way off and determined to try for him. It was quite exciting. The trackers said the elephant would

be coming round the edge of the jungle towards us. So my cousin and I and one tracker stayed about 10 yards outside the jungle and waited and sure enough the elephant came along. My cousin was to have the first shot and I was to shoot immediately after. We waited absolutely still and I thought my cousin would never shoot and the beast would be on top of us, but when he was about 10 or 15 yards away, my cousin fired and I fired too. My shot must have been almost immediately after the fatal one as it was just on the side of the hump between the eyes. My cousin's was right in the middle of it.

The sequel was when I returned to Mousagalla, my estate in Matale East. I got a letter from the Government Agent, Anuradhapura, saying we had shot an elephant in the North Central Province and that he was fining me. Goodness knows how much. I wrote to him and told him I would not pay the fine and that he had better have notice boards put up on the boundaries of the Province. I afterwards heard that he fined the trackers Rs. 10/- each. The next time I went down there I found one of them and paid his fine, but could not find the other one. On the way back to the river we ran into a herd of elephants. They were rushing about with their tails up and trumpeting and it was quite exciting.

This first trip made me just love the jungle and for many years after I used to camp out for 10 days or a fortnight twice a year, once in the dry season and once in the open season. For a few years I used to go with Harry Storey generally in the Vettacatchi and Tamankadua District. I was to have gone with him when he got mauled by a leopard, but went to the Boer war instead and I remember receiving a letter out there telling me all about it.

I afterwards with my brother and others including Brigadier Fell, who was in command of the Volunteers here, used to go up the Aripu track from Anuradhapura. This is almost a straight track through the jungle to Aripu on the north-west coast. We used to camp either at Peymadu or in the jungle on either side of

this track at Tantrimally or near the old abandoned tanks on the South-west of Pymadu. There used to be plenty of game of all sorts here and we had many very enjoyable trips. When the last war broke out I was there with John Still, Bill Murray of Pussellawa and my nephew and we got a telegram to say war had broken out and had to return. My brother and I were the first to go up this Pymadu track in motor cars, we took mamoties and alavangoes and had to dig ourselves out several times.

Later on I used to go with Gervaise Smith (No. 1 Col. Com. Coy.) up to the Northern Province round about Mankulam and have had some most enjoyable trips there. On one trip I had gone in a small old Wolseley car, which David Scott asked me to keep for him. Gervaise was with me in his car and we had gone in different directions to sit up for bear and leopard. I had told my driver to meet me at a certain spot at 6 a.m. the next morning, but instead of my car, Gervaise's car was there with a note from him saying he had gone to Colombo by train and had sent his car, as mine was burning in the ditch about a mile or two from Mankulam and sure enough it was a mass of cinders. I told old David Scott that he was lucky to get the Insurane.

I have also been on one or two trips to the Yala. I think the country I liked and knew

the best was the Wilpattu forests and Tantrimally. I knew all the villagers and trackers round about and they were always exceedingly good and helpful. I would much like again to travel in this district, but alas old age and having no camp equipment now (1944) prevents me. There is nothing nicer than to see the animals in their wild state and sitting up in a machan or behind some rocks in bright moonlight and wondering when one hears a rustling what is going to emerge ; or suddenly seeing an elephant out on the rocks round the pool without hearing a sound. It does not matter if one never gets a shot at a bear or leopard.

When I first went out shooting there was no Society and we all thought in those days that a great deal of slaughter was going on among the sambhur and deer. At last it was decided to form a Game Protection Society and a meeting was held at the Bristol Hotel with Admiral Kennedy as Chairman.

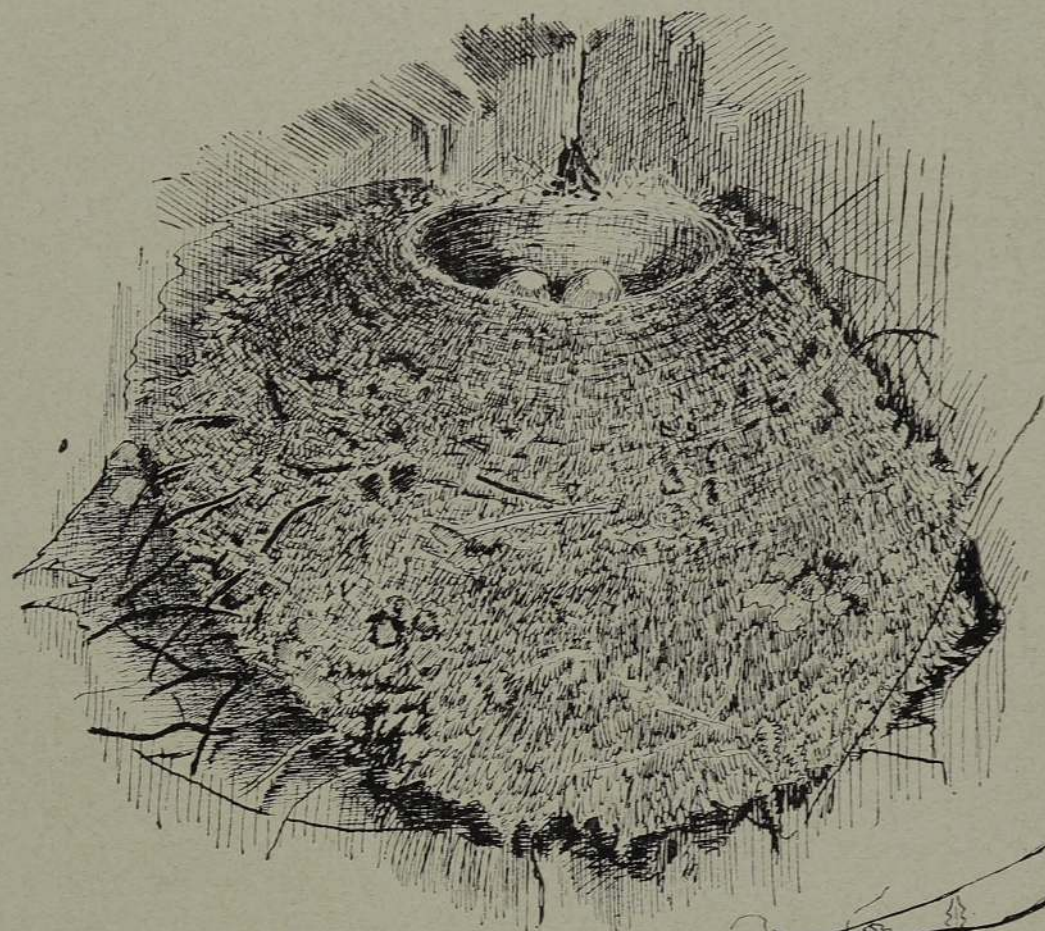
Tommy Farr was one of the leading lights for protection in those days. I think the Society has been responsible for saving the lives of many animals, but even when I went out last time about 5 or 4 years ago, one heard shots all round at night. The game laws are never kept and apply like all Ceylon laws to certain people only.

DO YOU KNOW YOUR BIRDS' NESTS ?



No. 1. Neat nest—Lined with fine grasses, the outside plastered with cob-webs.

No. 2. Nest constructed between two leaves sewn together with spider cocoon-silk—lined with fine grasses and rootlet fibres, moss and vegetable down used in construction of the walls together with old spider eggs cases.



No. 3. Nest in niche in bank or rocks. The bulk of the nest is made from moss and maiden-hair fern stems lined with fern root fibres.



No. 4. Nest in bush. Slung between twiggly branches with cobwebs—lining made from grass fibres—walls made from rootlets and moss loosely woven together.

Amparai 40 Years Ago

By T. KOCH TOUSSAINT

IN resurrecting the past for comparison with the present Amparai in the Eastern Province of Ceylon, I give my experience of a trip starting from Bandarawela to Amparai *via* Batticaloa, forty years ago to show the great strides time has taken to change a jungle into a modern town, as pen pictured by Dr. Roman W. Szechowycz in his article, "The History of the Gal Oya Valley", appearing in *Loris* of December, 1959.

Having previously arranged with Hector, my cousin, who was stationed at Kalmunai in the Eastern Province, I arrived at Bandarawela which was then the terminus to the railway train of the Uva Highlands. I spent a day with the late Mr. Thwaites in his large bungalow and left for Badulla by the Government Mail and Passenger Motor Van starting from the Bandarawela Post Office at 2 p.m. This motor van ran daily conveying mails and passengers to Batticaloa *via* Maha-Oya. Its accommodation was comprised of a front seat occupied by the driver, and two long bench seats behind; with the mail bags piled on top of the wooden roof. The tyres of this motor vehicle were solid rubber, needing no inflation. It carried three oil lamps. The journey in this van was not comfortable although I occupied the best seat alongside the driver, on which I sat the whole night through with my loaded .303 rifle between my knees, hoping to be able to have a shot at a leopard that might appear along the road. This "tip" was given me by the driver who assured me of coming across leopard after we passed Bibile.

The moon was in its first quarter and there was light enough to observe objects on the road ahead.

Keeping a speed of 20 miles an hour the motor van rattled along, reaching Maha Oya about midnight, halting at the resthouse to allow the passengers to refresh themselves with a "bite" and a cup of coffee or to stretch their limbs. Maha-Oya resthouse was dimly lighted and in its kitchen was a Tamil village woman engaged in boiling water in a

pot, placed on three stones over a fire, on the floor, and preparing coffee which she served out in beaked tin mugs to the passengers crowding round the kitchen waiting to be served at ten cents a mug. I drank a mug of this hot coffee myself, which was very refreshing, after the cool evening air experienced on the Passara pass.

In about half an hour, the conductor of the motor vehicle sounded his whistle, and we resumed our seats on the car. The engine was cranked and we continued rattling along with the oil lights twinkling.

So far we had not seen any wild animal, but after having covered about eight miles, I encountered my first leopard seated on his hunches on the middle of the road calmly and steadily looking at our oncoming car. It did not take me time to recognise it nor to level my rifle and fire, while the driver at the same time applied his brakes. The leopard stood up on his hind legs, then came down on all fours and turned to bite his tail as though that were the cause of his pain, then quickly dashed into the jungle on his right. After this I sat thinking almost right through the rest of the journey of how futile it is to shoot at an animal unless one is sure of killing it on the spot or at least being able to track it down if wounded. Nobody including myself, was bold enough to step off the car to examine the road for bloodstains, fearing that if the leopard was only wounded it might be by the edge of the jungle licking its wound and waiting to spring on any one who approached it. So I felt sorry for what I had done, and resolved not to repeat it. Within the next ten miles we saw two more leopards leisurely crossing the road, but I "dilly-dallied" with my rifle pretending I was not quick enough—and they vanished into the jungle.

Arriving at Batticaloa in the early hours of the morning I put up at the resthouse, and had a good sleep that night.

Walking down to the old pier after lunch I boarded the launch as a passenger for Kalmunai,

Eastern Province. The launch tied up alongside the Kalmunai pier at 6 p.m. having taken four hours on a voyage of 27 miles nonstop.

My time being short my cousin and I left by car, for Amparai without delay with a cook and provisions and arrived at the Irrigation Circuit Bungalow at about 6.30 in the evening. This bungalow was isolated and stood a little distance from a tank. While we were having a whisky (it was then only 5.50 a bottle) the cook came to tell us that a deer was belling in the jungle behind the kitchen. Picking up our rifles which were both of 303 calibre, we went to investigate. Getting through a small patch of scrub jungle we came upon an open space of about $\frac{1}{4}$ acre in extent, with some clumps of low bushes here and there. Hector being an experienced jungle man with a vast knowledge of the habits of wild animals, took command of the situation, whispering to me to stand quite still, shoulder to shoulder. He explained that a stag sambur was belling in the jungle on our left, calling the doe which was presumably in the jungle on our right, and that she would cross the open before us to join the stag, and when she got to the middle of the open space he would press his foot on mine as a signal to fire. We stood so, at the ready, and in a little while the deer broke cover about 25 yards on our right, and cautiously looked about her. She then started walking across the open country before us. We fired.

She dropped on her knees, then on her side, full stretched and struggling with a broken spine; a bullet ended her suffering.

One evening we came upon a sounder of wild pig in an open plain. Setting our sights to 300 yds., we each fired three rounds, rapid. The volley killed three outright, the rest rushed into the jungle.

Returning to the spot, the next morning with

labourers, we found to my horror, only three hogs heads and by them three large crocodiles fast asleep, or so they seemed.

From where did these crocodiles come? There was no water or marsh land anywhere near. Crocodiles must surely have a keen sense of smell.

Another morning we came across nine elephants huddled up together facing one another in a circular formation. It was indeed a rare sight to me, and we stood about 20 yards away watching their large ears flapping and their restless trunks swinging. Most of them were aware of our presence; may be they thought we were deer as we crouched in khaki behind bushes.

The three incidents narrated occurred within a couple of miles from the Irrigation Bungalow, Amparai.

We also took with us each 12 bore D.B.B.L. shot-gun. Late one evening we donned old black coats and sat by the bund of the tank close to the bungalow to try for duck. We took up positions about 100 yards away from each other along the bund. In about half an hour the ducks began flying in our direction across the tank. We had agreed to fire at those flying directly overhead as it would not have been possible to retrieve any that fell in the tank which was crocodile infested. Expending seven cartridges, four ducks fell to my gun; one falling directly on my head, giving my "Pig-sticker", (also known as Prince of Wales Thoopy) a tremendous whack and me a fright. Within about 20 minutes I heard Hector's whistle calling off the shoot. He had shot 6 ducks. We fed our fill that night.

Well, this was Amparai forty years ago, a sportsman's paradise! And what's it now: the "City of Gal Oya".

What a miricale memory is, that we are able to recall the long past in a jiffy of time!

Make Your Own Tent

By LEANDER

"Come out! 'tis now September, The Hunter's Moon's begun."

THAT, at least is correct; for it was in August (before shooting became virtually restricted to visiting royalty, in National Parks, and to foreign diplomats) that the sahibs used to get out their rifles and their 2 by 4s and take the shot-guns out of their cases and get away for a weekend of unbridled blood-lust. Or so, at all events, we must believe.

But one does not have to be a hunter and possess a permit to stock explosives in order to share what is surely the best part of a hunter's sport—the open air, the hard living, the laboriously (but most rewardingly) created illusion that one has reverted to the primitive.

There is no better way in which to accomplish this than a holiday under canvas. I really quite seriously mean this. And if you have never tried and are afraid that in trying, you will not like it, my advice to you is to try it once, anyway: you may find that up to now you have been passing up without being aware of it one of the finest means of physical and spiritual re-creation.

Do not, I beg of you, allow yourself to be told that camping (to be acceptable to the civilized human frame) must be expensive and involves a fabulous fitting out at Lillywhite's or Abercrombie and Fitch. You don't even have to have a professionally made tent—or even a tent at all—though I admit that a good tent is a tremendous purely practical advantage.

If you can buy a ready-made tent, then, bully for you. But if you cannot, still go camping. I guarantee that you will enjoy it more than any uninitiated could ever think possible. R. L. Spittel, who probably knows more about practical camping in really wild country (professional surveyors and such like rightly tend to be sybarites) used to do most of his camping under a tarpaulin: "Canvas sheet (12 ft. by 17 ft., with 7 large brass eyelet holes along narrower borders) which, when slung over a horizontal rope or stick, makes a little tent that comfortably accommodates two camp beds" is what he recommends in his "Wild Ceylon", and I, with my far less experience, concur heartily. But I

think I can tell you how to make this basic shelter even more practical and comfortable for next to no cost.

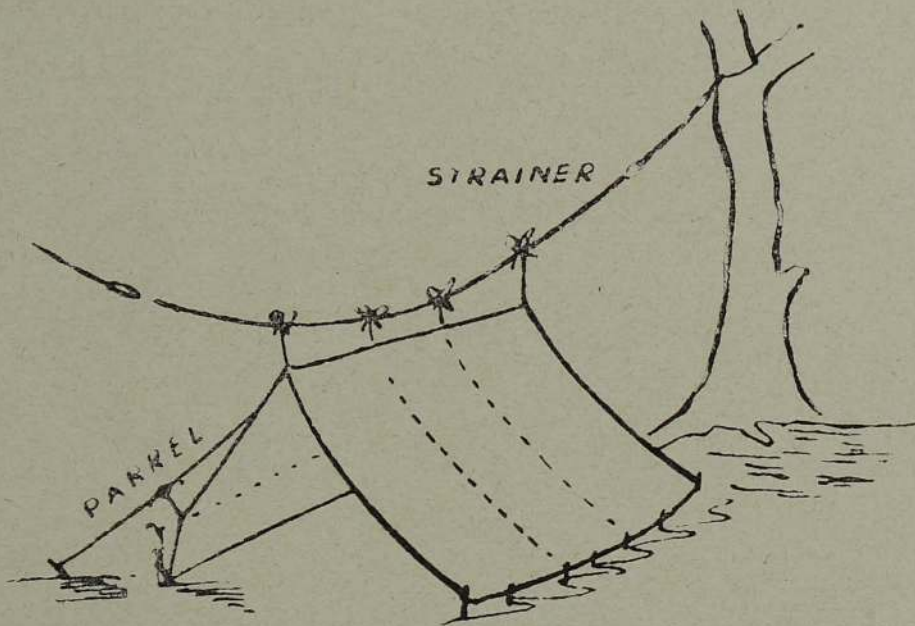
To begin with increase the size of your canvas sheet to 18 by 12 feet and the eyelets to 9. This will involve you in the purchase of 24 yards of 36" canvas or its equivalent in wider material—a large item but the only one. (The 18 feet is not important, but makes for an exact number of yards.) Join equal strips together, long side to long side, overlapping the edges at the seams and twice double-sewing, to make a sheet of the required size.

If you were now to sling a rope between two trees at a height about 8 feet from the ground and throw the sheet over this, pegging it down at the corners and at each eyelet (which, of course, you have put in) you would have a very adequate shelter affording you a central aisle with plenty of headroom to stand up in and a space about 6 feet by 12 in which the roof would be high enough (in theory) to sit under in comfort in a camp chair.

But—the roof would tend to sag badly, both lengthwise and breadthwise, greatly reducing the headroom practically available: and your tent would be quite open at both ends, and you might not like that, although the mosquitoes would acknowledge it with shouts and yells. So now for a few (quite inexpensive) refinements.

A stretched rope hangs in a "catenary" curve; and so—more or less—does a sheet hung over it. Now a catenary curve may have a certain beauty to a mathematician but it can be (quite literally) a pain in the neck to a tall camper. So—Refinement No. 1 obviate, as far as possible the catenary curve along the ridge of your tent.

Method: do not throw the sheet over the rope, but hang it from the rope. To accomplish this, stitch 5 pairs of strong web tapes along the ridge of the tent (if the ridge is "roped" like the edge of a sail, so much the stronger) at the ends and on each seam. Tie your rope across from two trees, about 8 feet up, as taut as you can—a wire rope incorporating two strainers would be pretty near ideal—and tie the ridge of the



tent, by the middle pair of tapes, to the lowest point of the rope. Now peg the sides of the tent out, loops round the middle pair of eyelets, right down to the ground, stretching the sides of the tent as far as they will go. Next, the two inner pairs of tapes to the rope, so as to leave the ridge as level as possible and peg those (corresponding) eyelets to the ground. And finally the outer tapes and eyelets.

Now to do away with still more sag. Fix a loop of rope to the sides of the tent a quarter way from the top and a quarter way from the bottom of each seam on each side—six loops in all threading a strong loose ring in each loop and making the loops about one-and-a-third times the direct distance between the points at which you fix them. (These are called parrels).

After the tent is slung, put a rope through the ring on each parrel and guy it out to a peg, using

a runner to get it really taut. The figure shows, in rather exaggerated form, the effect of both the method of slinging I have described and the parrels in use. I have shown the tent in a through-section at the first seam, paralleled on the left-hand side and nikan on the other. Of course the tent can be adapted to use with ordinary upright and ridge poles, too.

To defeat the mosquitoes, simply attach shaped curtains of heavy netting (if you can make them detachable, the tent will be all the easier to fold) to the open ends. Make them long enough to more-than-reach the ground. (They will not exclude rain—but that's the point in going camping in Ceylon in August. Besides, the side of your tent should be facing any direction from which rain may not be expected. If you're still unlucky—well, that's the life!)

If, now, in addition, you attach, a sod-cloth to the canvas sides, *i.e.* a narrow flap along the inside bottom on which earth can be heaped, your tent will completely keep out all the lower forms of wild life and you can safely sleep on the ground sheet (if you carry one).

Now, this is a heavy tent: the man (or woman) I have had in mind in describing it is one who owns some means of transport—not necessarily a car, but something bigger than a bicycle. In making it up, strength is of the essence; far more important than lightness.

Observer.

Snips

LOCAL

Tragedy at the Kandy Perahera

I

Stampede as Elephant Charges Drummer

Pandemonium broke loose at night on the processional route of the great Esala

Perahera, when an elephant in the van of the perahera suddenly charged a drummer.

Fourteen persons were killed in the stampede. Of these only a woman and her child were killed by the elephant.

Among those who died as a result of the

stampede were two men, 11 women and a child, according to information received at Police Headquarters. Altogether 125 persons (71 men and 54 women) were admitted to the Kandy Hospital, while 191 (105 men and 86 women) were sent away after treatment.

Various reasons are given for the sudden attack by the elephant, but the most plausible is that a brazier of burning coals was accidentally held against its flank. Then, the elephants in the vicinity turned as one and retraced their steps towards the Maligawa.

Pandemonium reigned. The retinue of dancers, drummers, torch-bearers, sesath-bearers, and even the temple chiefs broke rank and sought shelter where they could find it. Some even clambered on to roof tops. A score or more crashed through the windows of the Queen's Hotel.

As the elephant lunged towards the drummer, terror gripped the crowds and, like a forest fire, swept through the perahera route. Then began the wild stampede.

The police held the crowds at the greatest pressure points and prevented what might have been a greater loss of life.

After its exhibition of temper, the elephant was secured to the lamp standard on the centre of Ward Street and Brownrigg Street. All might have been well but for the conduct of the crowd who hooted at and worried the animal until it again got out of control.

The elephant broke loose and ran down Brownrigg Street. The police party had no alternative but to open fire. Two shots failed to bring down the animal. It continued in its wild career with the crowd flying in all directions, except for a woman and her baby, who were trampled to death.

Then the elephant turned into a lane. The police officers followed and fired again. The elephant, in its death throes, turned upon its pursuers, when the sergeant, almost at point-blank range, brought it down with a shot through the head.

It was nearly two hours before some semblance of order was restored.

The temple chiefs, jealous of preserving the continuity of a great national and religious festival, were discussing the wisdom of resuming the perahera. It transpired that the only authority who could stop the perahera was the Government Agent of Kandy. It was decided not to pursue the matter. The perahera was resumed and concluded according to custom.

Raja, the elephant which caused all the panic, belonged to Mr. S. D. Udurawana, charged at a man who is said to have teased it the previous day.

Times.

August, 1959.

2

Eye Witness Story of Stampede

A post-mortem examination was held on the body of the elephant.

By evening no recognisable entity of the elephant was seen except heaps of pink flesh and a mass of entrails. The animal had been cut up by the police for easy burial.

It was this same elephant, Rajah, which figured in an incident the previous night at Mahaiyawa, after the perahera, where, but for Mr. E. W. Buultjens, A.S.P., who directed the crowd to safety, there might have been a greater loss of life.

It was this elephant, too, which figured in a unique case in the annals of crime : It was alleged to be the instrument of murder in a case in which one Keerala, its mahout, about a year ago, was charged with the murder of a man by goading it to crush him to death. Keerala was found guilty of culpable homicide and sentenced to six years' hard labour.

M. M. Heen Banda, the mahout at the time of last night's incident, told the following story to "The Times of Ceylon." :

The elephant was quite docile to him. On the night of the incident the perahera had just come to the end of Ward Street junction and

was about to turn off into Brownrigg Street when he (Heen Banda), who was going beside it, goad in hand, saw the animal strike with its trunk at an official of the Maligawa, who supervised the torch-bearers and other similar participants in the procession.

Heen Banda tried to control the animal, but the animal turned sideways alarming the packed crowd on the pavement nearest it. The people became panicky and began to raise cries and run helter skelter.

Powerful bulbs of cameras, too, were seen to flash at the animal. It became more excited and tried to lunge forward. The animal got on to the centre of the road, but somehow it was brought under control and chained to a lamp-post.

It was then that the crowd began to harry it and shout at it. He saw some people even throw burning coal at it. Then the animal became infuriated, broke loose and attacked two shops. Those who rode on its back managed to get on to the roofs of the houses it attacked.

Panic spread along the perahera route. At Queen's Hotel, Europeans helped to take in the women and children who were on the road. In Colombo Street and Trincomalee Street many Indian traders closed and bolted their doors. Other shops opened their doors and took in panic-stricken women and children.

There were those who took advantage of the panic to loot and rob. There were also those who helped carry children to safety at the risk of their own lives.

Times.

August, 1959.

3

Chained Elephants at Subsequent Perahera

As a sequel to elephants running amok at the Kandy and Bellanwila peraheras, the Vidagama perahera was held with the legs of the 30 participating elephants chained.

A statue of Vidagama Maitreya Maha Thero, author of the "Lovada Sangarava" and "Budu-

guna Alankaraya" was carried in the procession.

Another annual perahera in this area—that of the Gonabendi Kataragama Devale of Batakettara—was held the next day.

Observer.

August, 1959.

4

No Torches at the Perahera

With the tragedy at the Kandy perahera in mind precautions against any untoward occurrence are being taken in preparing for the Maha Saman Devale perahera to be held at Ratnapura from September 12th.

It has been decided not to use torches owing to the danger to the elephants.

Strict measures were taken in selecting elephants and no mahouts who had taken liquor were allowed to participate.

Female elephants were separated from the males and arrangements were made to discontinue any mahout who disobeyed the Basnayake Nilame, or failed to carry out instructions.

The sale of liquor, crackers, kerosene and other inflammable products was forbidden.

Times.

September 2.

5

The Glory is Departed

The Esala Perahera of Kandy famed as one of the colourful pageants of the East, if not in the whole world, has now been reduced to a mere composition of some elephants, "Nilames" and a few dancers and drummers and is shorn of its pristine glory. The varieties of music, various forms of dances and drums, diverse flags and banners, silver umbrellas and chowries carried on elephants by men in festive garb, acrobats, spearmen, "Kalagedi", "Udekki", "Leekeli" and traditional "Pantheru" players, and manifold other items that added to the magnificence of the procession in the past are now conspicuous only by their absence. The recent innovation of electric jets

to adorn the "Ransivige" mounted on the tusker to carry the casket containing relics is not compatible with the traditional pattern of this ancient festival.

There seems also to be unawareness of the sanctity of the Dalada Maligawa and the solemnity of the Esala festival. The perahera is now held as a mere annual routine divorced of any sense of duty or religious fervour. In the old days as the tusker carrying the Sacred Relics wended its way, the vast crowd watching it raised tumultuous cries of "sadhu" with their hands clasped in veneration muffling even the sound of conchs, cymbals and drums. There is now positive deterioration in the religious manifestations of our Buddhists and in the moral conduct of our people as a whole.

Those who enjoyed Maligawa land gifted by the Sinhalese Kings were those who performed diverse services for generations to the Dalada Maligawa; but such services are now unfortunately performed only by a few while the others pay a nominal fee in lieu of their services and the temple authorities are satisfied! As a result of this commutation during the annual festival ill-clad men carry torches (copra cressets), flags, etc., and are seen walking in the procession.

Time is opportune for a complete reorientation of the Kandy Esala Perahera in an effort to preserve its traditional elements. A code of conduct should be established for all those who have a hand in the annual festival and other ceremonies associated with the temple of the Tooth—The Dalada Maligawa—and help restore its ancient glory.

B. A. M. PIYADASA.

Kandy.

6

Raja's Ex-mahout comes from Jail to Testify

"A mahout would not tell the owner even if an elephant attacked someone, lest it reflected on the efficiency of the mahout. The owner had to depend on others, for such informa-

tion. Elephants reacted badly only when they were ill-treated by mahouts," said Mr. S. B. Udurawana of Udurawana, Wattegama, who owned "Raja" the elephant which figured in the Kandy Perahera stampede on the night of August 19, at the inquiry into the deaths of 15 persons by the Kandy Magistrate, Mr. Fred E. Alles. Inspector F. Avery of Kandy Police led evidence.

Earlier, Sangaran Gedera Keerala, one of Raja's former mahouts, gave evidence.

He said that Raja had earlier killed two persons, caused injury to two of its former mahouts and on many occasions attempted to attack persons who had come in front of it.

Keerala was summoned from prison to give evidence before the Magistrate. He is now serving a sentence of 6 years for the offence of having goaded Raja in 1957 to kill a man named Ukkurala by pressing him against an embankment.

Keerala said he was from Hurikaduwe about 10 miles off Kandy: "I was looking after Raja for 1½ years. Before that one Dingiri Banda was its keeper, and he was trampled to death by Raja. Thereafter a man named Tikiribanda was looking after it. One day Tikiri Banda took the animal to a rivulet in Gunnepana to be bathed. It became restless and fractured his hand. After that one Kiribanda was its keeper. He too was attacked by Raja once, and had to be hospitalised. After that incident, Raja himself fell ill with a stomach ailment.

Udurawana, father of the owner got the animal as a baby from the jungle about 25 years ago. When he the witness was looking after it, it began losing its temper. The animal took part in the 1957 Esala Perahera and once, before the actual start of a night perahera, attacked witness. It also chased a pedestrian who happened to pass in front of it. Its front leg used to be chained always. On that occasion it did not create any more trouble. It was obedient to the witness."

Keerala said that after that incident, Raja's hind legs were also coupled in chains during

the Perahera. Usually, the front legs were chained.

Keerala admitted that he was found guilty of the charge before the Supreme Court and was sentenced to a term of 6 years rigorous imprisonment.

Witness said that the animal was always taken in chains, because it had a tendency to attack people. It used to get worse soon after "must". He had been looking after elephants for 30 years. The period of "must" in some animals lasted 2 months and in others 3 months. Elephants were ferocious during the period of "must". Even after the period elapsed, one could not be sure for some months more that the animal would not become restive again. During "must" every animal had a discharge from near its ears. When the liquid from the ears dried, the period was reckoned to have come to an end.

Keerala said that they were usually not paid, but had to earn for themselves by employing the elephant. During the illness of the animal, the owner paid him and his assistant Rs. 10 per person per week. Udurawana had been a good master to him.

Witness said that he, and Heenbanda (the mahout who was in charge of the animal at the time of the stampede) looked after the animal jointly. After the witness got involved in the case, Heenbanda was the mahout. During the time he looked after the animal, he always had Heenbanda as his assistant. After Heenbanda became mahout he was assisted by another. Elephants which were restless and ferocious were usually looked after by two men, and docile ones by a single man. He had been looking after ferocious animals and had the capacity to do so. He could not say the extent of the experience of Heenbanda. When Raja was taken on the high roads both of them went with the animal. The front leg was always chained. They also carried other chains on the elephant to couple its hind legs in case it turned out to be restive or dangerous.

When an elephant was in "must" the witness

added, it was always underfed. If an elephant was fed well too early after "must" it could become ferocious again and also go into "must" again. Under such circumstances it would even attack the mahout and kill him. It would also attack the people on the road. He had taken the animal in the Esala Perahera on two occasions and on both it was taken in chains.

It was on one of those occasions the animal tried to attack him. On both occasions he took Raja in the Kandy Perahera he was not in "must".

At the time Raja attacked Ukkurala, the witness said, he was actually coming in for "must". It was very close to "must" when it killed Ukkurala, for which he the witness was now paying the penalty. There was ample evidence of the animal coming into "must" on the day of the killing of Ukkurala. Its cheeks were reddening and he was actually taking away the animal to be tied up for a period when it attacked Ukkurala.

In reply to further questions by the Court the witness said that in the language of the elephants, when they wanted an animal to attack someone or press against something they never used the word "Daha Puru". "Puru" only was the command they gave when it was necessary to press down a tree or press against anything else. Witness emphasised that there was no need at all to say anything to the animal or use any kind of command to get any one attacked or pressed. The mahouts could get anything done by a simple manipulation of their legs, without giving the least indication to others of what they were doing. The mahout by a twist of his legs whilst on the back of the elephant can get an elephant to do whatever he wished.

Magistrate to witness: "I asked you all these questions to find out what a man could do with an elephant."

Elephant Run Over by Train

A She-Elephant, about 8 feet in height, was knocked down and killed by the

Batticaloa-Trincomalee night mail train about 200 yards near Gal Oya junction.

It is stated that this elephant was proceeding on the rail track towards the on-coming train at about 2 a.m. After the accident the other elephants in the herd ran to the jungles.

Daily News.

August, 1959.

Tree-top View of Elephants

Do you want to watch wild elephants at close quarters and have egg-hoppers for your breakfast?

This combined pleasure awaits you at the "The Little (Tree-Top) Hut" at the Lahugala Game Sanctuary. Bookings are now being accepted.

The "The Little (Tree Top) Hut" has been constructed on top of a huge tree at the sanctuary.

It is provided with a thatched roof, and has room for about six persons at a time.

It is reported that there is a herd of about 40 wild elephants in the sanctuary at present.

Among other facilities that the 'hut' provides are trackers in attendance.

Egg-hoppers were provided for breakfast because "guests" would have to be in the hut by 3 p.m. and remain there overnight.

Times.

August, 1959.

Illicit Shooting in Drought

Sambhur, spotted deer and pigs are being slaughtered in large numbers by poachers on the eastern borders of the Melmulam Intermediate Zone.

Mr. Stanley de Silva, Divisional Game Ranger, Vavuniya, with other Wild Life Department Officers, surprised a poachers' encampment on the banks of the Parangi Aru in Vavuniya, which flows through the Intermediate Zone. The Wild Life Department Officers arrested some men who had been drying about 250 pounds of venison over fires.

Sambhur, spotted deer and pig are said to be slaughtered in large numbers in this area. The flesh is dried in the jungle at the poachers' encampments over fires and then transported to Jaffna, where a pound of dried meat is sold at Rs. 1.50.

Buffaloes are also said to be killed and the flesh dried and sold as sambhur. The dried meat is carried by head loads to the closest motorable road and then taken by car to the Peninsula and also towns such as Omantai, Mankulam, Kilinochchi, Paranthan.

In the Mankulam, Tunakai and Iranamadu areas too wild life such as deer and even peafowl abound. At Tunakai in the mornings and evenings deer in herds can be approached and shot with ease.

The Divisional Game Ranger, Vavuniya, wants, it is understood, a special squad of Wild Life Department Officers to make regular checks along the banks of the Parangi Aru, on which even lime trees had been grown by poachers.

The remains of a fully grown wild elephant had also been discovered in the area. It is believed that the elephant had been shot dead when it disturbed the poachers.

Daily News.

September, 1959.

Snipe

In the Letters to the Editor column pride of place has been given to a letter from Mr. Dewey M. Diaz, the Hony. Secretary of the Ceylon Animal Lover's Association, who pleads with "Sportsmen" to stop the "wanton destruction" of snipe.

If Mr. Diaz knew anything about snipe or snipe-shooting he should know that the swift-flying snipe is not a bird that would lend itself to "wanton destruction". He should know, too, that true "Sportsmen" (to whom he makes his appeal) will never practice nor condone such "wanton destruction".

With the present price of cartridges and the restrictions placed on their purchase, it is only a few real devotees of the sport who will go

snipe-shooting nowadays, and their "bags" are not going to make even a small dent in the hordes of snipe that come over from abroad.

If Mr. Diaz's ban is aimed at Market Hunters who go out in the night armed with powerful torches and knock dazzled snipe on the head with a stick, I am sure all sportsmen will join him whole-heartedly, but to ban all snipe shooting would be to place one more restriction on the personal freedom of the citizen of "Free Sri Lanka".

"Spare the Snipe" says Dewey Diaz.
 Dewey-eyed with sentiment.
 We'd admire the CALA.
 If it's time were better spent.
 Are there no more grave abuses?
 Try to stop them if you can.
 In Ban-ridden "Free Sri Lanka".
 Do we need another ban?
 Can't we ban this "Rabble-rousing".
 Can't we see that Laws are framed.
 Laws to stop assassins' bullets.
 That at HUMAN hearts are aimed?
 There are worth while things dear Diaz.
 For which we can agitate.
 Won't you try to change your bias? . . .
 Spare our Sport Legitimate."

"GALLINAGO" in *Daily News*.

1.11.59.

Hornets Kill Mother and Child

A 30-year-old gypsy woman, Rengamma Vengathai, and her four-year-old son Vengatinai died after being attacked by hornets at Kalawila Estate, Alutgama.

The child died on the spot and the woman at the Kalutara hospital.

Daily News.

Infant Bitten by Snake

A two-month old child of Karambewa was bitten by a cobra about 2 p.m. on the 10th instant and died almost a few minutes afterwards.

At the inquest it was revealed that a cobra had tried to steal the eggs which had been placed for hatching under the bed in which the child was sleeping.

The hen had attacked the cobra which had got on to the bed and then bitten the sleeping baby.

Daily News.

Biting the Hand that Fed it

"The late Mr. Sam Koch," Mr. Lorenz Andree writes, "of snake fame, but better known as a photo-artist, told him how he used to watch fearfully every morning on his way to the Narahenpita railway station to take train to work an old female feeding a tame cobra with bits of baked hoppers in the garden in front of her humble hut. Mr. Koch had often warned her of the risks she ran; but she politely used to remind him that the snake was a sudu naya, (a blessed cobra).

"Some time later, when Mr. Koch happened to be passing the old hopper woman's hut, he heard weeping and wailing inside, and quickly stepping in to enquire was not, however, surprised to learn that the old woman's pet cobra had bitten her to death. What had happened was that on the fatal day one of the fragments of hopper had fallen short of the snake so the woman had got up from her seat, picked it up and stepped forward to place it nearer: when the cobra probably misinterpreting her unaccustomed movement, struck at and bit her.

"It was a case of biting the hand that so long had fed it. So cobras are also treacherous and unpredictable!"

LEANDER in *Observer*.

Pet Bear Delights Wilpattu Visitors

Wilpattu sanctuary had an unusually large number of visitors last week, possibly because for a month from September 1, the National Park is closed to visitors.

Last week's visitors had a rare sight—a 14-foot python helpless and distended after swallowing a full-grown deer.

From the Kali Villu circuit bungalow, about 16 miles from Maradanmaduwa, they saw dozens of elephants, scores of wild boar and large numbers of deer and sambur, coming for water to the tank. Visitors who made less noise saw in addition bear and leopard.

At the Maradanmaduwa circuit bungalow a party of visitors had left some sugar and some soft drinks in the compound and had been chatting seated in the verandah in the twilight. One of the children saw what he described as a short fat, dark man taking a bottle, holding it with both hands and drinking the contents.

When the elders went, they found a full-grown bear standing on its hind legs and drinking from the bottle. Shrieks of the visitors brought Mr. Percy de Alwis, the Divisional Game Ranger, and his staff. They explained that it was a pet bear.

While they were laughing over the incident, the bear grabbed a parcel of sugar and ran into the jungle close by, pursued by some of the staff shouting, "Kalu, Kalu" which was the bear's name, and appealing to her to hand over the sugar.

Mr. de Alwis replaced the sugar, although the visitors were reluctant to accept it. "Kalu" is quite tame and moves about Maradanmaduwa like a pet dog.

"For a holiday for the whole family, there is no place like Wilpattu," was the comment of several at the National Park.

Daily News.

September, 1959.

Sanctuary for "Mermaids" ?

Ceylon may offer sanctuary to the prototype of the mermaids.

Believe it or not a community of aquatic mammals known as dugongs, whose appearance is believed to have given rise in ancient times to

the mermaid legend, are living off the coast of Mannar and face extinction.

The Government Agent, Mannar, Mr. C. Ludekens, recently spotted ten carcasses of these mammals.

Investigations he made revealed that people who were blasting the coral reef with dynamite had accidentally destroyed the dugongs at the mouth of the Malwatu Oya.

Mr. Ludekens has asked the Divisional Inspector of Fisheries in the area to make a complete investigation and report to him.

As the shoal is feared to be nearing extinction at the hands of the dynamiters, Mr. Ludekens proposes to find ways and means of affording protection to the survivors.

He told the "Daily News" that when he had received the Fisheries Inspector's report, he would discuss the matter further with his officers next week.

If it is necessary to do so, he would ask for State assistance to create a sanctuary for the dugongs.

The species is distributed in the coastal waters of Red Sea, the Indian Ocean, and east in the Pacific as far as the Solomon and Marshal Islands. It ranges south along the coast of northern Queensland, Australia, and North as far as Liu Kiu Islands between Formosa and Japan..

Daily News.

Wild Life Protection Under Sinhalese Kings

The first National Park in the Western world, the Yellowstone National Park in Canada, was established in 1872. Seven hundred years earlier a Sinhalese king inscribed on stone his edict, also proclaiming it throughout his kingdom "by beat of drum", that no animal should be killed within a radius of 7 gau (14 miles) of the city of Anuradhapura. "He gave security to animals: he gave security to the fish in the twelve great tanks . . . and he also gave security to birds."

In the Colombo Museum now is a stone pillar

taken from the Basavakkulum Tank, dated in the first half of the 10th century, with an inscription on it regulating the fishing in the tank.

Constantly in the Chronicles and in the Buddhist literature of the past, back to its earliest records, one finds injunctions laid down and impressed by law concerning the protection and preservation of "the birds of the air and the beasts of the field, and in the waters under

the earth"—in Christian parlance.

Not only was there a ban on killing, but veterinary science was studied and practised by royal decree, and the voluntary feeding of birds and wild animals was considered a meritorious occupation. Sinhalese chronicles and inscriptions bear abundant witness to the obligation of these duties.

ESMIE RANKINE in *Sunday Observer*.

Gorilla at Zoo

Gorgeous, a year-old gorilla, was among the passengers on the Air Ceylon plane from Amsterdam recently. *Gorgeous* was sent to the Dehiwela Zoo from the Amsterdam Zoo. He weighs $11\frac{1}{2}$ pounds and is two feet tall. The Dehiwela Zoo hopes soon to obtain a female gorilla called *Gussy*.

14.8.59.

Times of Ceylon.



That 13-foot Leopard

A recent issue of the "Observer" carried the picture of a thirteen-foot leopard shot recently in the Sagamam-Akkaraipattu area.

If this unusual length is correct, then the beast is a record specimen, worthy of notice by local sportsmen and worthy of a place in our National Museum.

I was under the impression that large and full-grown leopards never exceeded 7 or 8 feet in length—or perhaps a little more if they were record specimens—when measured from end of nose to tip of tail, between pegs, as is usually done.

The late Harry Storey, in his "Hunting and Shooting in Ceylon," says that "a full-grown animal will measure as much as 7 feet from nose to the tip of the tail."

C. E. Norris, the President of our Wild Life Society, states in his booklet on "Animals of the Ruhuna Park" that the leopard attains "an overall length of 7 feet in males".

The late R. Shelton Agar, who brought to book the notorious "man-eater of Punanai" and had shot quite a number of other leopards, writes in the *Loris Magazine* (Vol. 2, No. 6, p. 321), "Leopards vary much in size. A very big beast would measure 8½ feet.

In his standard volume on "The Mammals of Ceylon," W. W. A. Phillips gives the "maximum" length of a male leopard as 7 ft. 10 in. (p. 164).

In the same page, he states that this male "was killed by Mr. Fellowes Gordon in the

Southern Province in 1929", and he adds, "It is an unusually fine specimen, and the largest of which I have any record."

In connection with other Ceylon records of big game, R. H. Wills seems to have shot a leopard at Kantalai in 1928, and it measured as much as 8 ft. 2¾ ins.—the length being authenticated by Dr. Gordon Chissell who also measured the carcass (*Loris*, Vol. 5, No. 2, p. 90).

Further, D. J. G. Hennessy, giving a summary of record measurements in his "Green Aisles" (p. 190), mentions that a male leopard, trapped at Pattipola in 1939 by Commander A. G. Palliser, measured 7 ft. 7 ins.; and another male shot by A. W. Bowles in Ceylon was 8 ft. 3 ins. in length. In the same summary, we find that, even among the Indian and African races of leopards the measurements though larger than those of Ceylon, do not seem to have reached even 10 feet.

For, Hennessy refers to a leopard shot at Nepal Terai by H.H. the Maharajah of Nepal, which was 9 ft. 4 ins. in length. And another, bagged by Dr. J. E. Church at Ruanda (Africa), measured 9 ft. 7 ins.

So, it would appear that, unless there has been a "printer's devil" on the part of the Lake House Press, your picture-correspondent, in giving the length of the recently-shot specimen as 13 feet, has let his imagination run away with him.

S. V. O. SOMANADER in *Observer*.

Kalkudab.

FOREIGN

The Scandal at Kariba Dam

Fifteen cubits upward did the waters prevail, and all flesh died that moved upon the earth, both of fowl and of cattle and of beasts, and the waters prevailed upon the earth an hundred and fifty days.

So, in Genesis, is described that great Act of God, The Flood. But God had provided, through Noah and his ark, that not all beasts

and birds should perish by His flood. At Kariba, where the Zambesi river is being dammed to provide power for the Central African Federation, the waters will prevail not for 150 days but for ever. And man, unlike God, fell short in such acts of mercy as would save the creatures of the area.

Let the facts speak for themselves. At the beginning of December the flooding began of

2,500 square miles of country rich in game, and it is expected to continue until 1963. As flooding proceeds many islands are formed, some of which will remain above water but most of which will eventually be submerged, as some have been already.

The flooding is driving the animals (chiefly impala, klipspringer, bushbuck, duiker, zebra, bush pig, baboons and monkeys) to seek refuge on the islands. There, of course, they can neither escape nor find food, because even those islands which remain above water level are soon denuded of all vegetation. On one, invaded by baboons, every lizard seen was tailless, because the baboons had tried to pull them from crevices in the rocks. Birds, including guinea fowl and francolin, become too weak from starvation to be able to fly out of the flooded zone. Bigger animals, such as elephants, rhinoceros, lion, leopard, sable and roan antelope and buffalo, are also in danger, but are thought more likely to be able to escape.

These disclosures were made by Mr. Reay Smithers, director of the National Museums of Southern Rhodesia, at a meeting called in London by the Fauna Preservation Society to consider action to meet the situation. Mr. Smithers said that although some consequences of the flooding had been foreseen by the Southern Rhodesia Game Department (nobody could have foreseen them all), counter measures were limited by manpower and by money. The four game rangers available, with two small outboard boats, could make only a pitiful impression on a task hourly increasing in magnitude until it becomes heart-breaking.

Already they have done a magnificent job in taking 300 animals off the islands. But the biggest they can tackle is an impala; a kudu cannot be carried in their inadequate craft. They face dangers. The animals must be netted and given tranquillisers before they can be moved, and there is constant risk of snake bite. Storms blow up repeatedly on the vast expanse of water.

Reality demands operations on an adequate

scale. The Fauna Preservation Society, under Lieut.-Colonel Boyle, its secretary, is working to provide rescue parties, each with a 35 ft. fishing boat with a hold for the animals, auxiliary boats with outboard engines and tents, clothing and equipment for their crews, game rangers and trackers. The rescuers will work under Lieut.-Colonel R. A. Critchley, President of the Wild Life Protection Society of Rhodesia and the Game Preservation and Hunting Association.

We gladly risk an accusation of wisdom after the event in saying that there are aspects of the operation which could have been foreseen, but were not. Those who planned this alteration in the face of Nature should have realised their responsibility for the fate of the creatures of Nature. A biologist was evidently not considered a necessary member of the planning staff.

In the emergency which negligence has created, rescue work is clearly beyond the capacity of the Government of Southern Rhodesia alone. It is a world-wide duty for all who profess regard for animal welfare. Financial help from many quarters, including the British Government, is an obligation now enjoined by elementary decency. If, for instance, the International Union for the Conservation of Nature maintains that rescue work of this sort is outside the scope of a society concerned with the preservation of rarer animals, it must be said that the black rhinoceros is likely to suffer disaster, to name only one species.

Action must now be swift and effective. This the Fauna Preservation Society will supply to the limit of any funds it can command. Donations should be sent to the Society, care of the Zoological Society at Regent's Park. It is hoped to raise £10,000. This sum will not be too much, if indeed it will be enough.

Behind the Kariba dam a tragedy of the animal world is taking place unparalleled in recent years.

In Central Africa one of the world's great heritages of wild life faces extinction through the thoughtlessness of man. By a narrow margin there remains time to avoid this major cause for shame and, to recall Genesis again, to save these

otherwise doomed creatures:

*that they may breed abundantly in the earth,
and be fruitful, and multiply upon the earth.*

The Field.

London, April, 1959.

Kariba

1

Rescue Work

There is growing concern among animal lovers for the safety of thousands of animals threatened by the rapidly rising waters of Lake Kariba, Southern Rhodesia. Already thousands, large and small, have been drowned and many thousands more are threatened, according to Lieutenant-Colonel R. A. Critchley, President of the Game Preservation and Hunting Association of Northern Rhodesia, in a telephone interview from Lusaka.

The Chairman of the Southern Rhodesia Wild Life Protection Society, Mr. S. Aitken-Cade, has criticized the Governments concerned for tardiness in tackling the rescue problem. The lake, he said, had been rising a foot a day, and if the problem were not tackled energetically there would soon be no problem left to handle—all the animals would be drowned. He said that the rescue staff at present in operation (eight Europeans and 35 Africans on the southern side, and one European and three Africans from the northern bank) was "totally inadequate".

Official spokesmen insisted that the rescue operations are adequate.

London Times.

2

Nylons for Animals

More than 1,000 animals have now been rescued from Lake Kariba. Meanwhile the dam is threatened by another flood, this time of nylon stockings. From all over Southern Africa second-hand hose are pouring in for use in the rescue operations.

Last Monday the Society for the Prevention of Cruelty to Animals issued an appeal for nylon stockings which could be plaited into ropes to

capture buck. Game officers had found hemp ropes too harsh. Within 24 hours 1,000 stockings were delivered to S.P.C.A. offices in Salisbury. From the Zambezi to Cape Town women have been hunting through discarded clothing to such an extent that the game department has cried a halt to the deluge of stockings.

While African messengers outside the game department plaited the stockings into ropes, officials went through the returns and found that more than 1,000 animals had now been safely taken ashore from the islands of the lake.

London Times.

Scientists "Hunt" Elephants

Scientists carrying out research in the animal sanctuaries of East Africa are trying to discover how much room an elephant herd needs for normal life and what causes mass migrations of animals at certain times of the year.

The results of their work will have an important bearing upon land utilisation in many parts of East Africa, for the pressure on land is such that it requires more than mere sentiment to justify reservation of large tracts for wild life if this means the exclusion of a tribe short of land and food.

Recently two experts from the East African University College at Makerere have been "hunting" elephants in Uganda with bows and arrows.

Unlike the African poachers who use similar weapons to kill such animals for meat and ivory, the Makerere men, Dr. Tony Harhoorn and Mr. John Lock, seek to paralyse the elephants temporarily so that they can make brief medical inspections, take measurements, and then send the elephants on their way unharmed, duly tagged for future reference.

For this operation they require a 20-minute period of "co-operation" from the elephant and the best way to achieve this is by tipping the arrows with a synthetic derivative of curare, the deadly nerve-paralysing poison used by the South American Indians.

A tiny syringe is attached to each arrowhead to carry the exact amount of poison to paralyse the elephant long enough for inspection, yet not sufficient to kill.

Finding the exact dosage for an elephant has been a difficult problem.

The scientists first tried out their experiments on zebras and Uganda cob, but when they directed their attention to elephants, they found that the powerful pachyderms hardly even staggered when hit with the poisoned arrows.

Before the experiments can be started on a large scale, the scientific archers have still to work out the exact dosage.

Already their researches have brought them into close contact with elephant herds—sometimes much too close, and there have been several hasty retreats before irate bull elephants, for the 60-yard range necessary for effective shooting leaves little margin for safety.

Melbourne "Age".

Mallard's Amorous Flight

Though he was so omniscient, I had never until 10 days ago thought of Shakespeare as a field naturalist. Then I happened to be watching what is such a pleasant feature of our duck-haunted chalk-streams at this time of year, the amorous flight of two mallard drakes high in air after a duck—what the German naturalists call "pursuit flights"—which they make for sheer sport over vast circuits of sky. And I suddenly realised that Shakespeare, too, must have watched the very same display at Thames-side or by Avon when he wrote of Antony :

*Like a doting mallard,
Leaving the fight in height, flies after her.*

And perhaps he was quoting from his own observation when he described the swallows nesting in the sails of Cleopatra's barge. It is just the sort of thing which swallows do at odd times, and I can imagine it puzzling "the augurers" when it occurs.

F. K. STANFORD in *The Field*.

He Battled an Elephant—with a Shirt

Police reported yesterday that a worker in the Murchison Falls National Park jungle in Uganda successfully battled a rogue elephant with nothing more than a shirt off his back.

The beast charged the labour supervisor, Justinian Tokwaro, scooping him up with its trunk. Then, with Tokwaro swinging by his legs, the elephant lumbered off to find a convenient tree to smash his victim against.

Tokwaro tore his already shredded shirt from his back and jammed it into the elephant's mouth, causing the beast to drop him.

The elephant then attempted to jab the man with its tusks, but Tokwaro wriggled to one side. The ivory tusks barely missed him.

The elephant finally lost interest in Tokwaro and trotted away, police said.

Bear Hunt to Brush up the Guardsmen

A Northern Ontario bear-hunt to provide bearskins for Buckingham Palace Guardsmen will not amount to a wanton slaughter of the animals, according to Mr. Leo Del Villano, Mayor of Timmins.

"It will be strictly a sporting event" Mr. Del Villano said during a business trip here.

Mr. Del Villano had offered to supply the bearskins after reading a news item last month that the Guardsmen were short of skins to refurbish their worn headgear.

A later London report, noting that 6,000 bearskins would be needed, touched off a flood of protests—and an editorial in the London Times last Friday saying that the idea of the British Army accepting a gift involving slaughter that would not otherwise take place was "not pretty".

"We never at any time said we were going to kill 6,000 bears and the Guards haven't asked us to," explained the Mayor. "They told us they have 3,000 hats and about 300 need replacement each year."

He did not expect the organised hunt to

increase the total number of bears killed in the north this year.

(PTC REUTER) in *Daily News*.

Crab Travelled 62 miles in 30 years

French coastal fishermen have caught a crab, which, despite its natural handicap of walking

sideways, had apparently travelled about 62 miles in the last 30 years.

The words "Job Le Roux" scratched on its shell were identified by M. Joseph Le Roux now 50, who said he caught the crab 100 kilometres South along the coast 30 years ago, inscribed his name on its shell, and threw it back into the sea.

Correspondence

Destruction of Pelicans at Vavuniya

Sir,

Since the opening of the Vavunnikulam Colonisation Scheme the destruction of Pelicans by poachers has gone on apace.

No action seems to have been taken to check this in spite of the Commissions, Committees, and Conferences that have met on a number of occasions.

Things have been allowed to drift that—in the opinion of the District Game Ranger of Vavuniya—there are now hardly fifty mature birds left in Vavunnikulam.

Perhaps it might be too much to expect the Government to declare the 35,000 acres of land in the Vavunnikulam Colonisation Scheme as a "Bird Sanctuary", after all nothing concrete has yet been done to save the Ceylon elephant from extinction. Closing the stable door after the "horse" has escaped seems to be the practice now in vogue.

R. N. S. K. KARALAKULASINGAM.

*St. Thomas' College,
Mount Lavinia.
1.8.59.*

Frigate-Bird

Sir,

During the stormy weather of the South-west monsoon in June I saw a Frigate-bird gliding quite slowly, low over the Senate Building in

the Fort. He was being mobbed by half-a-dozen crows but had that air of disdain that the pilot of a jet fighter aircraft might adopt towards a Dakota. It was a small Frigate-bird—Mathews, I think.

L. S. BOYS.

June, 1959.

Ed.—G. M. Henry says both the Great and the Small Frigate-birds occur from time to time on the coasts of Ceylon. The former has been recorded two or three times, the latter is a fairly frequent South-west monsoon visitor.

Blue-tailed Bee-eater and other Migrants

Sir,

In Vol. VIII, No. 3, Mr. E. B. Wikramanayake relates the presence of the Blue-tailed Bee-eater in June, 1955, at Pottuvil.

On 15th August, 1959, I came across two of these birds at Yakkala in Yala East Intermediate Zone, also a small flock on the Kumbukan Oya close by the Kumana tota. In my records of the arrival of migrants, I have one reported from Mandativu on the 15th July, 1949, and, on 28th August, 1949, I saw this Bee-eater at Kalametiya. The remainder of my arrival records over a period of 13 years are all late September or early October.

The migrants, in 1959, appeared late compared to their normal times of arrival so, why should the Blue-tailed Bee-eater alone be so

early? It is possible these birds were non-breeding loiterers but, like W. W. A. Phillips (cf *Spolia Zeylanica*, Vol. 28, p. 109) I am not convinced that this is so, owing to the presence of a flock which appears to rule out stragglers or loiterers.

On 23rd June, 1959, I recorded the following migrants as being observed in Block 2 of Ruhuna National Park :—

Greenshank, Redshank, Marsh Sandpiper, Whiskered Tern, Whimbrel or Curlew and, strangely, about 12 Black-tailed Godwits in a scattered flock at Pahala Potana. These Godwits appeared to be in non-breeding plumage and were, I think, non-breeding birds. The Black-tailed Godwit is not a common migrant to Ceylon. In Vol. VIII, No. 1, p. 64, I reported the presence of a Peregrine Falcon in Colombo Fort. Mr. R. W. S. Flindall has informed me this bird returned on 22nd September, 1959, this is now its third visit to Colombo.

C. E. NORRIS, F.Z.S.

*Pingarawa,
Namunukula.*

Sunbird's and Flowerpecker's Nests

Sir,

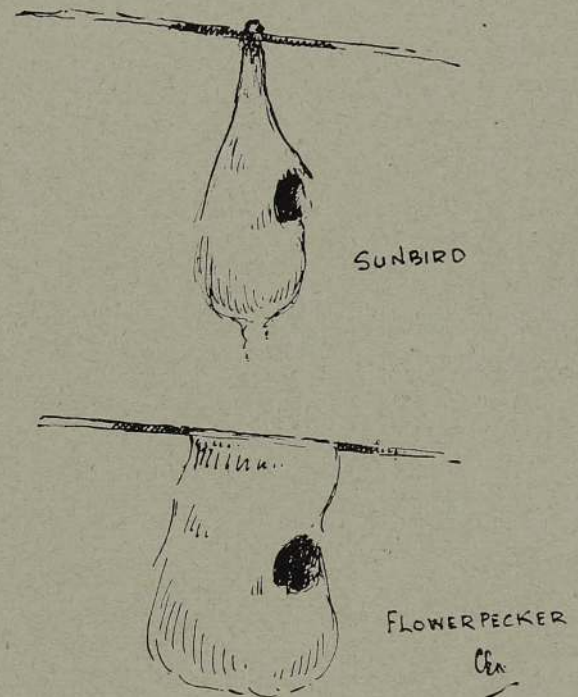
In Vol. VIII, No. 3, p. 139, a drawing of a Sunbird's nest has been published. The species has not been disclosed.

There is an error in the way the nest is

suspended from the branch as all Sunbirds suspend their nests from the top apex of the nest, so that it hangs from a point. Those of the Flowerpeckers are suspended from the whole width of the nest. The enclosed sketch may illustrate this difference.

C. E. NORRIS, F.Z.S.

*Pingarawa,
Namunukula.*



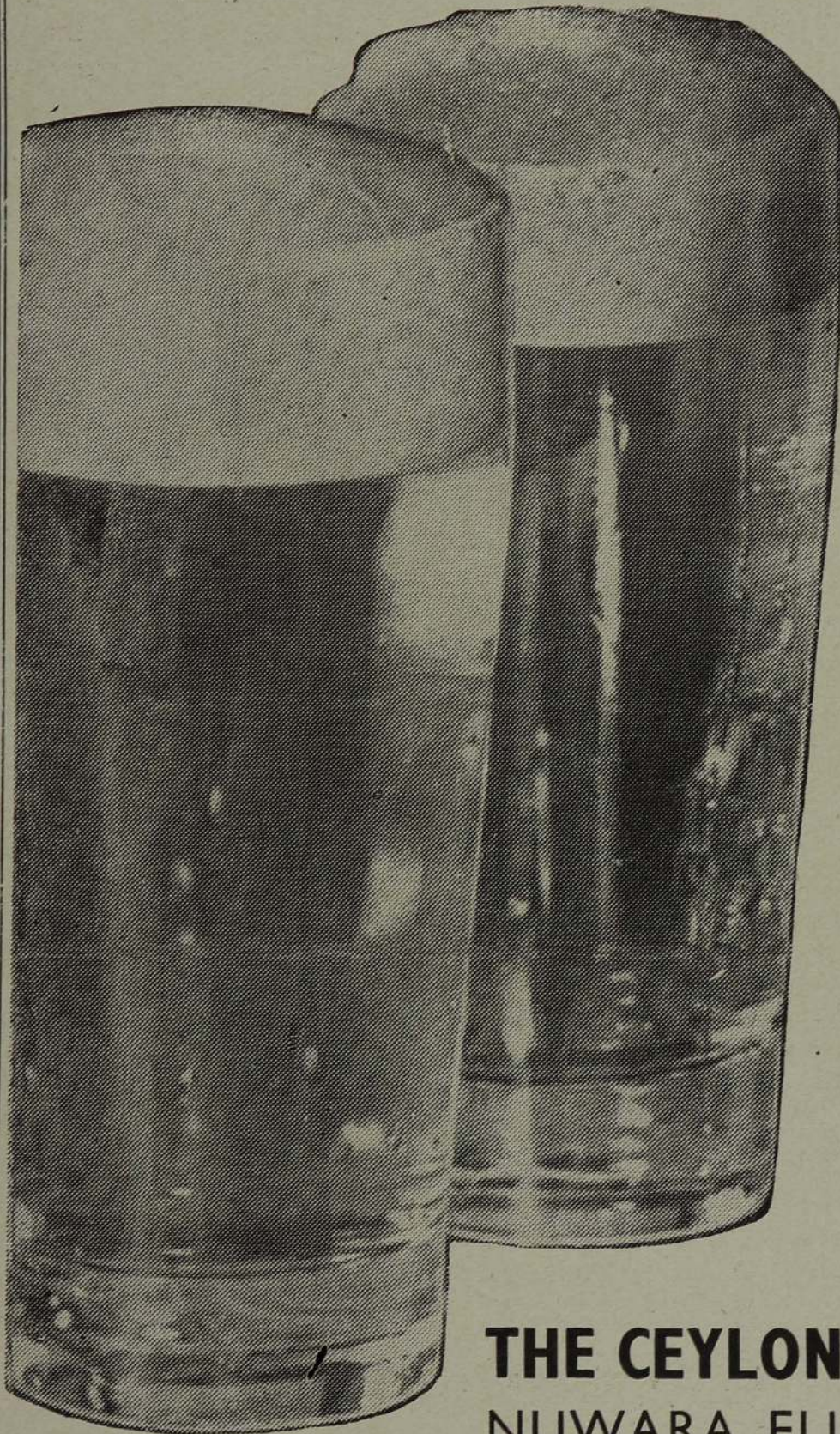
Sunbird's and Flowerpecker's Nests

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- No. 2. Tailor Bird.
- No. 3. Dusky Blue Flycatcher.
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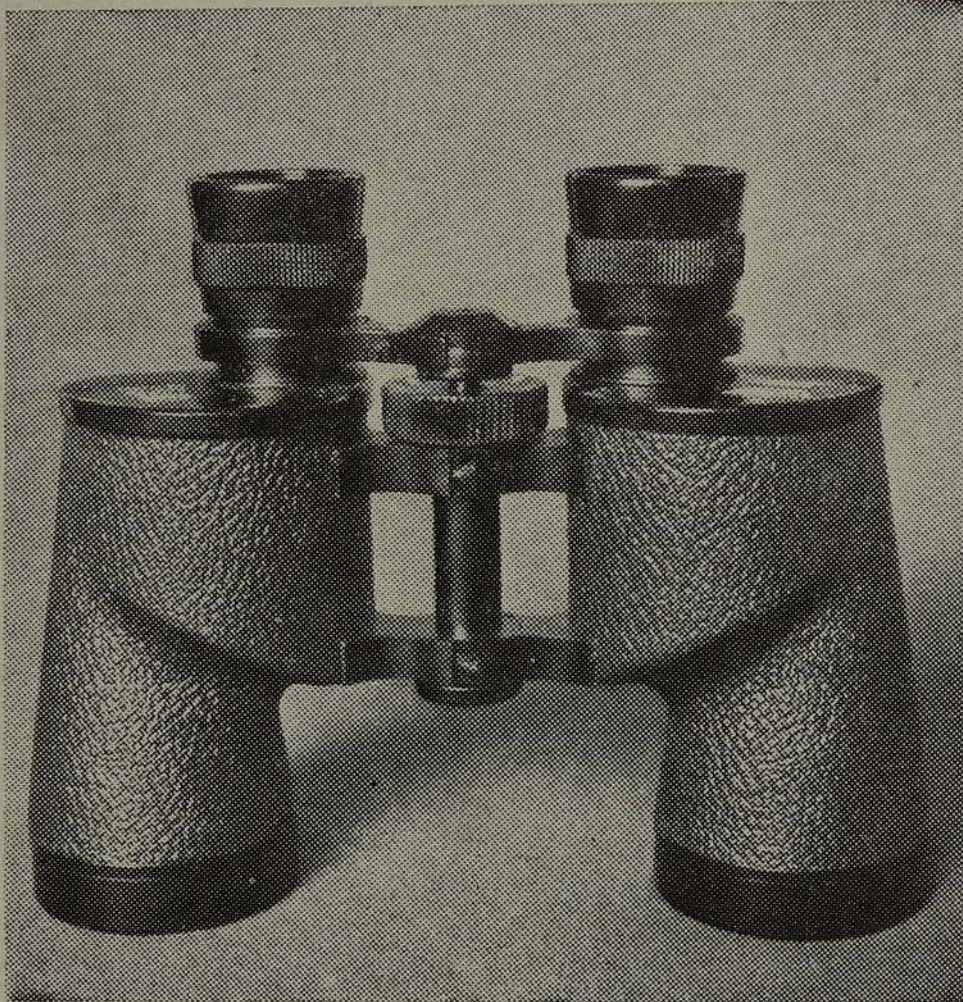
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