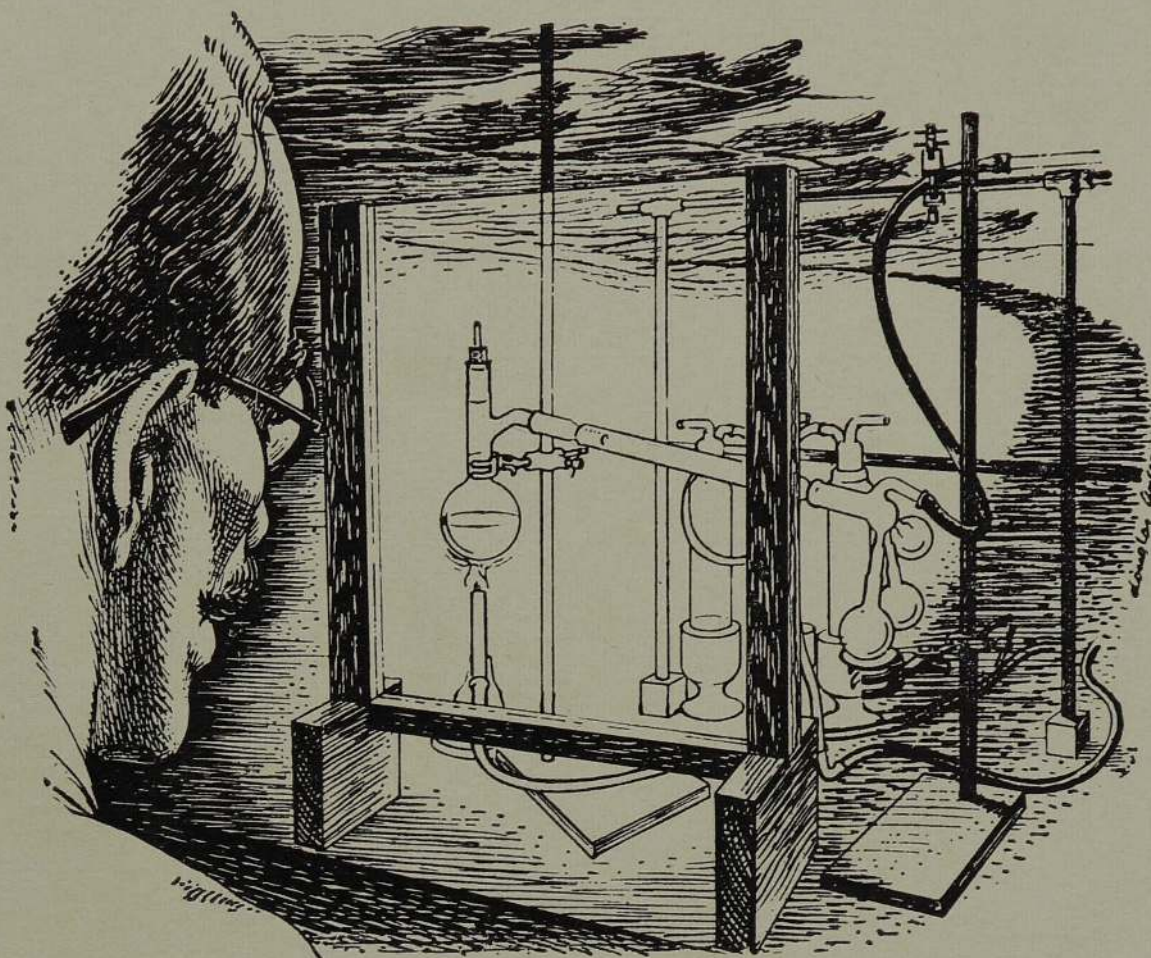


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FOUNDED 1894

The objects for which the Society was formed were—

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

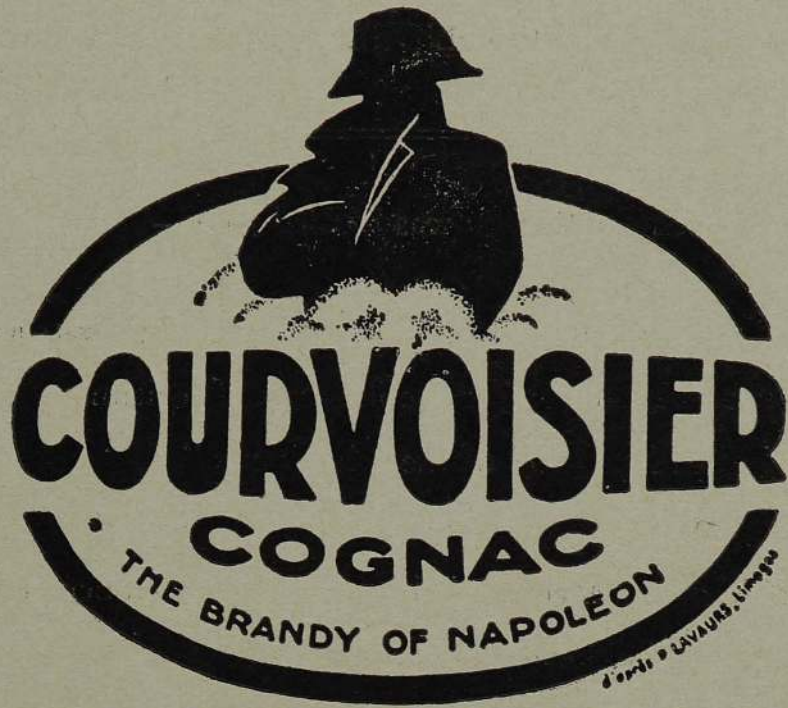
At the Annual General Meeting held on 30th November, 1945, the Rules were revised, and the objects of the Society now are—

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

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

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

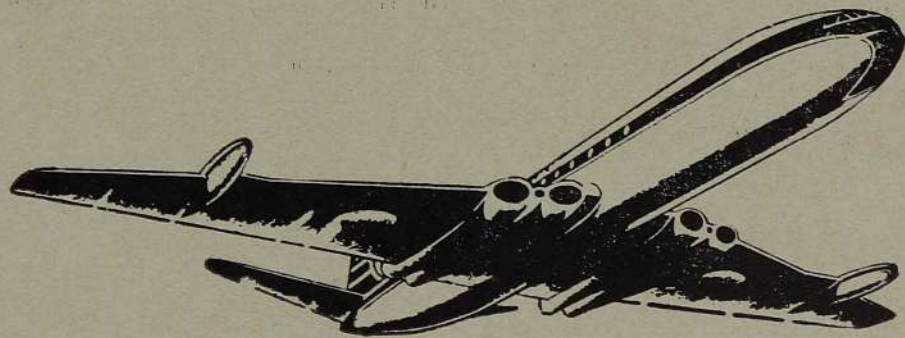
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LORIS

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Articles are invited not only from members of the Society but also from the general public interested in Wild Life.

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Wild Life Protection

By R. S. V. POULIER, C.B.E., B.A., B.SC. (Lond.)

Presidential Address to the Ceylon Natural History Society—1957

THE history of Wild Life Protection in Ceylon is unique. As Buddhist rulers, the Sinhalese kings protected wild animals, birds and fishes. Mr. C. W. Nicholas (on whose writings and knowledge I draw freely) stated that ancient Chronicles and inscriptions record the fulfilment of this duty. The protection afforded was real and resulted in the survival of the fauna despite extensive opening up of land under large irrigation and agricultural projects; this aspect of the subject will acquire particular significance when I refer later to the peculiar notion sometimes held that, Ceylon has no room both for animals and for man. Outside the protected areas, hunting was permitted and practised; those principles continue unchanged to this day. Ceylon is thus the singularly fortunate possessor of a historical background of Wild Life Protection extending uninterruptedly into the past for nearly 2000 years.

In more modern times, the first National Park to be founded was the Yellowstone National Park in the United States of America in 1872. In 1885 Canada dedicated the Banff National Park "to the people of Canada for their benefit, education and enjoyment". In both these Parks equal stress was laid on scenic attractions

and on wild life. With growing knowledge of the extinction of wild species, the protection of wild life became the more important function.

The history of protective measures in Africa began in 1884 when President Kruger pointed out that game in the country was getting rapidly depleted and suggested in the VOLKSRAAD setting apart some kind of Sanctuary as a refuge for wild animals. The area was more clearly defined in 1885 and the Sabi Game Reserve was proclaimed in 1898; the South African War then intervened. On the conclusion of hostilities, the Sabi Game Reserve was reproclaimed and staff was appointed. The thrilling story of its growth and development into the present Kruger National Park is related by Colonel J. Stevenson-Hamilton (Warden from 1902 to 1946) in that exciting book "South African Eden". As we are endeavouring to do in Ceylon, public opinion there had to be carefully educated. The Kruger National Park was constituted in 1926.

World-wide concern was aroused in the rapid depletion of African fauna by indiscriminate and commercialised shooting and the International Conference for the Protection of Nature held in Paris in 1931 insisted on the

immediate necessity for more stringent protective measures on a planned basis. Then followed in 1933 the very important London Conference for the Protection of the Fauna and Flora of Africa. The ten Governments represented there, ratified the resultant Convention, defining the designation, purpose and scope of the different classes of National Reserves to be established under the control and administration of Departments of Wild Life and those principles have now received general acceptance throughout the World. The previously held vague ideas of protection were examined at International level and crystallised into clear proposals capable of practical application in all countries. The protection of wild life passed out of the unofficial control of naturalists, sportsmen and nature-lovers and became a definite Government responsibility. It was recognised that the Fauna and Flora of a country are national assets, possessing an educational, scientific, economical and recreational value and that an obligation rested upon Governments for their conservation and preservation for the benefit of future generations. In the words of King George the Sixth (on entering the Kruger National Park) "*The Wild Life of today is not ours to dispose of as we please—we hold it in trust for those who come after*". These words are a fearful indictment against us in Ceylon; our generation has eaten into our heritage thoughtlessly and even recklessly as our jungle roads now accusingly testify.

In Ceylon the wild animal population was very heavy a hundred years ago and elephants and other animals were killed in large numbers. The first significant reference to the possibility of gradual extinction of Wild Life appears in Sir Samuel Baker's "With Rifle and Hound in Ceylon". Mr. J. P. Lewis in his fascinating "Manual of the Vanni Districts" refers to a report of Mr. Withers in 1872, "Game is rapidly disappearing from most parts even of this thinly populated district. Wholesale slaughter has nearly exterminated game in the Maritime Pattus and in parts of the interior near regular halting places on the central road. The

flesh of deer and elk (should be sambhur) is literally being carted away from Melpattu. Some Madura people trade in the flesh of elk and deer . . . the carcass of a large male elk is sold on the spot for Rs. 2.25 and the carcass of a large male deer for 75 cents . . . they are usually shot from a pit sunk near a pool (doubtless in the dry season, as they still do in the Marichchikadai area) or over trained buffalo." There are similar references by Mr. Alfred Clark in a report on Forests of the Northern Province in 1877 and later by Mr. R. W. Ivers in his "Manual of the North Central Province". Thereafter frequent references occur in Administration Reports; that of the Survey Department in 1902 has an almost modern tone about it—"the water supply in the Game Sanctuary gave out by August and the animals crowded to the boundary rivers where great numbers were slaughtered."

Our predecessors were alive to the danger of the extinction of several species and took active steps. Ceylon has a proud record of legislation to protect its wild life, even if enforcement was inadequate and sometimes half-hearted.

About the time of the first World War (1914-18) and shortly after, a new and fearful menace to wild life emerged in the form of cheap, single-barrelled breach-loading shot guns which were imported in large numbers; motor car headlights were greatly improved and electric torches began to be used to facilitate the shooting of animals on and off the roads at night. The slaughter of wild life was enormous; many animals which had previously acquired nocturnal habits, found no refuge even at night. It took many years for animals to learn to avoid roads both by day and by night; this partial security of avoiding roads lasted in the wet weather but in the dry season animals must go to a few well-known water-holes to drink and here the slaughter still went on.

An amending Ordinance was introduced in the Legislative Council in 1926 and was referred to a Select Committee which proposed a number of new amendments (Sessional Paper 33 of 1930)

but the matter then lapsed. Partly as a result of the London Conference of 1933, Mr. D. S. Senanayake (then Minister for Agriculture and Lands) appointed a Committee to inquire into and report on the measures necessary for further protection of the indigenous fauna and flora of Ceylon. Sessional Paper 19 of 1934 envisaged an entirely new Ordinance, namely the present Fauna and Flora Protection Ordinance (2 of 1937) which was promulgated on March 1st of 1938. It provided for a Warden and a Department of Wild Life. The administration continued, however, with the Forest Department till a full time Warden (Mr. C. W. Nicholas) was appointed on 1st December, 1950. His 5 years of remarkable activity with inadequate staff, and his brilliant Annual Administration Reports constitute a definite landmark in the cause of Wild Life Protection in Ceylon. The 1937 Ordinance too is now much in need of amendment and proposals are with the Legal Draftsman.

No history of Wild Life Protection in Ceylon can be complete without a reference to the Game Protection Society. From about 1890 naturalists, lovers of wild life and sportsmen talked about a common meeting ground and the Society was ultimately formed at a meeting held at the Bristol Hotel, Colombo, on the 23rd of May, 1894. The objects were stated to be "To prevent the elimination of game in Ceylon by destruction of animals for trading purposes, to further the interests of legitimate sport, and to conserve one of the food supplies of the inhabitants." The rules and objects were revised in 1928 and in 1945, progressively reducing the stress on shooting and enhancing the bias towards protection and conservation. Even the changes in the names of the Society followed this tendency. In 1930 the "Game Protection Society" became the "Ceylon Game and Fauna Protection Society" and in 1955 it changed to "The Wild Life Protection Society of Ceylon".

From its early years the Society had consistently pressed the Government to declare Sanctuaries for birds and animals. Ruhuna, Wilpattu, Veddikachchi, Kumuna Bird Sanctuary and

many others were created largely as a result of the Society's efforts. In accordance with the ideas of the time, there was a Resident Sportsman's Shooting Reserve but the careful supervision of this was undertaken entirely by the Society and was a demonstration ground for wild life observation. It taught the great lesson of how man's intervention (even with good intentions) was always foolish in the matter of the delicate balance of nature. They pressed the Government to control the sale of dried meat and endeavoured to check that the collectors of shed horns did not slaughter deer and sambhur in order to secure their horns for export. They experimented with the introduction of new species to our jungles (mostly at personal individual expense): black buck, partridges, guinea fowl, etc., and learned that it is generally an undesirable practise. They carried out tank restorations, paying the cost and supervising the work themselves. Though Buttawa restoration failed in 1922 for want of expert advice, Kiripokuna (done by Messrs. Crabbe and Wickwar in 1930) was an outstanding success and to this day fulfils a very great need in the dry season for the animals in that part of the Eastern Province! I doubt if there is a lovelier stretch of water anywhere in Ceylon with its jungle surround and its invariable complement of birds and animals (including bear and elephant) as one peers uncertainly over the overgrown but yet strong bund.

In Nature's scheme of things, man, animals, birds, butterflies and insects are all complementary to each other. To his own detriment, MAN, thoughtlessly and for some personal and temporary advantage, upsets this delicate balance of Nature, conceived and worked out in practice over centuries. Many years ago in America they killed the animals and cut the forests. Now they have to restore it all by an elaborate Tennessee Valley authority.

To give another example, when the number of migrant ducks were greatly reduced, that wonderful Group called "Ducks Unlimited" traced the cause to the uneconomic clearing of marshy

land in Canada. They restored the breeding grounds and progressively the numbers of migrant ducks in the United States became normal again.

Here in Ceylon many of us have seen how the killing out of birds on paddy fields was invariably followed by the multiplication of numerous paddy-fly pests and the loss of more than half the crops. Expensive chemicals are used to kill the pests and we know that some peculiar unforeseen difficulty is bound to follow the use of chemicals which will also kill some other useful entity in the chain of that balance of Nature.

To revert to my main subject of wild life protection, I would like to invite your attention to a few inadequacies in the present law and to canvass your support in favour of their amendment:

I. My first reference is to buffer areas which in many cases are interposed between a National Park (or a Strict Natural Reserve) and an unprotected area. These buffers are of two kinds. They can be Intermediate Zones or they can be Sanctuaries. Whichever they are, they must be wide enough to prevent a poacher passing through them to the National Park, killing (or trapping) an animal and taking it back in the course of one night. This would presuppose a minimum width of perhaps 10 miles. Many of our Intermediate Zones are much narrower.

Where a Sanctuary (a concept peculiar to Ceylon) is a buffer (as in Wilpattu) it is ineffective because a Sanctuary is not a National Reserve and it can (and often does) include private land. Moreover, every form of human activity is permitted within it except hunting and shooting. A gun (in Ceylon) is frequently carried on the pretext of self-defence against dangerous animals like bears and elephants. Hence it is almost impossible to detect an offence which takes place in that part of a National Park which adjoins a Sanctuary.

II. The next amendment needed is the abandonment under present circumstances of the "Village area" concept. A person permanently settled in a "Village area" (declared as

such in the Gazette), may without a licence during the open season, shoot or kill a deer or sambhur to provide food for his family. This provision was intended to apply to those long ago isolated jungle villages which depended on this essential food supply. There was then no fear of commercialisation. Several factors have now intervened which did not exist before:

1. The growth of village populations and the continual killings (even in the close season) have so reduced the numbers of deer that hunters must now go far from their own villages to get deer—often into "areas" of other villages.
2. The improvement of communications, the cutting of new roads, the development of motor traffic and the advent of the jeep, have left no really isolated jungle villages, so that commercialisation has been inevitable and it is axiomatic that wild life can never exist when commercialisation sets in.
3. The "village area" idea so seized the imagination of the permanent unofficial opposition to the then Colonial Government that the whole of the North Central Province was declared a "village area" with the result that traders in Anuradhapura, Kekirawa, Polonnaruwa, Habarana and other towns made huge profits by advancing cartridges and shot guns to the villagers who got very little for their efforts and risks.
4. Two lesser reasons are the present revival of Buddhism even in remote villages and the fact that cultivation of paddy and chena have been extended and intensified in all areas.

My plea is that the lonely isolated "village in the jungle" area is no longer a reality and that *the time has now come for the abandonment of the "village area" concept.*

III. My third plea is that the time has also now arrived for the creation of a *National Trust* embracing all wild life areas, beauty spots, landscapes, seascapes, and green belts (both along

roads and around towns, especially the new towns like Anuradhapura). The Trust would as in other countries, call for contributions and accept bequests.

The Wild Life Protection Society and the Geographical Society are also interested in the project and we earnestly hope that it will be possible for the Government to agree. We sometimes feel that a People's Government **must** agree because the matters in Trust are essentially for the educational, scientific and recreational enjoyment of the people themselves.

I would only point out how queer the present disposition is, namely, that the Ministry which is responsible for land use and land development is the same Ministry that allocates and looks after Reserves which should actually be declared Reserves in perpetuity; (whereas as a matter of fact, frequent excisions are made from these Reserves). The present arrangement of the Land Ministry looking after Reserves in perpetuity might be likened to the appointment of a spending departmental chief (like the Director of Public Works) as the Chief of the Treasury, where he can freely and without other intervention draw on all the money he wants for expenditure.

I venture to plead that pending the creation of a National Trust, the National Reserves and Sanctuaries (and the Department of Wild Life) should be allocated to *another Ministry* probably that of Commerce and Trade which has Tourism in its charge. There is big money to be made by development of the National Parks on the lines of the Kruger National Park—and it is not only money in which we are interested.

[This change has been effected in 1959.]

In this idea of declaring the Reserves and Sanctuaries as such, we have recently had support from a new source, namely, the Buddha Jayanthi Committee which made a special recommendation to this effect to Government.

IV. As a fourth plea will you let me refer to the strange notion fairly current (in less informed quarters) that there is no room in Ceylon both for man (as chiefly represented by the

cultivator) and for animals. It is inevitable and essentially correct that increasing human populations must lead to increased utilisation of land for economic development. If sufficient thought is given, however, to the planning of this development, *it is always possible to reconcile the settlement by realistic methods of the apparently conflicting claims of wild life protection and of land use and development.*

By three entirely independent methods of approach I propose to establish that for very many years to come in the foreseeable future Ceylon will always have room both for animals and for man.

Two of these lines of approach involve forests. Recently both forests and wild life (as associated with forests) were featured prominently, first in that carefully phrased and precise Presidential address before the Association for the Advancement of Science by Dr. Holmes and secondly in the talk with which Mr. Ellepola opened a discussion at the recent annual meeting of the Wild Life Protection Society, on "Land Development in relation to Wild Life Preservation".

(1) After providing for full sufficiency in rice on the present low yields of paddy, there will yet be left for succeeding generations, 4 times the extent of land which is now necessary to reach sufficiency—and all this is land capable of development in agriculture.

(2) 4 million acres, that is 25% of the land mass (Dr. Holmes' figure for Ceylon is actually 35%), must always be maintained in forest for purposes of rainfall and climate. But all our Reserves (omitting stretches of water, private land, etc.) require less than $\frac{1}{4}$ of this extent.

In respect of both these computations, there are yet two overriding limitations which make even the liberal figures I allow to MAN incapable of fulfilment: firstly, the necessary cultivators are not available (even aided by machines)

and secondly, the necessary irrigation water is not there. These 2 factors are so strong that I omit reference to that third limiting factor in the South-West Low Country, of inadequate drainage.

- (3) The 3rd line of approach is that with no further opening up of land self-sufficiency in rice can be reached by raising of the paddy yield from the present average of 30 bushels per acre to 48.5 bushels per acre. In fact Dr. Vermatt (the Food and Agricultural Organisation's expert) in Sessional Paper 19 of 1956 (issued last October) gives forceful reasons for commending this course in preference to the opening up of new land. On this basis of increased yield, for over 75 years, no competing land problem between man and animals can arise, even with the large increase of population with which we are threatened.

V. My last plea is that from his early years every boy should be made to interest himself in more than one hobby which will last him all through life. I give, as examples, bird watching, an active interest in butterflies, dogs and other animals, regular purposeful ramblings in open areas, fishing (as they grow older), photography, visits to persons keeping collections of ornamental fish, birds, orchids, other plants, and visits to Zoos. As boys grow older they would be taken to the National Parks and then taught to enjoy the jungles (with camera, if religious or other scruples intervene!) its trees, birds, butterflies and animals. The great outdoors will be their laboratory for botany, zoology, perhaps a little geology, all made into one general science course with the elements of physics and chemistry included. At this stage they can become collectors of butterflies, birds' eggs, etc., and be taught the elements of (and necessity for) research.

HIGHLIGHTS IN REPORT OF THE COMMITTEE ON THE PRESERVATION OF WILD LIFE

By a Staff Writer in Times

This was published as a Sessional Paper (XIX—1959) on 16th November, 1959—two years after the Committee was appointed by the Minister of Lands and Land Development.

THE report of the Committee on Preservation of Wild Life is a feast for every nature lover. Never before have wild life enthusiasts, been regaled with such heady stuff—such wide and spirited recommendations.

The committee was appointed in December, 1957, with wide terms of reference. After recording oral evidence in Colombo and the outstations and studying numerous memoranda, including several on game protection in foreign countries, it has produced a report as comprehensive as can be.

Undoubtedly the most important recommen-

dation of the committee is that the existing natural reserves and sanctuaries "be not interfered with in any manner whatsoever". On the other hand, it has recommended the establishment of nine new reserves and the extension of existing reserves.

This is something for which wild life enthusiasts have always been agitating. In the past, forest areas have been opened up indiscriminately for village expansion, cultivation and grazing. Not satisfied with this, even the reserves have been encroached upon much to the detriment of our fauna.

REPORT ON PRESERVATION OF WILD LIFE

The State has been the worst offender in this respect. The setting up of the Kandulla tank colonisation scheme and the Kantalai sugar project has led to the complete loss of the 126-square-mile Vedakachchi reserve which had a well-distributed fauna; the Mahaveli-Minipe left bank scheme threatens the Wasgomuwa strict natural reserve; irrigation projects based on the Wila, Heda and Kumbukkan oyas will lead to the excision of large areas of Yala; the Wilpattu East Intermediate Zone and the Hakgala strict natural reserve are other areas which are threatened. Earlier, the Gal Oya development scheme took its toll of wild life.

While admitting that man's need must perforce come first, the committee states that the wild life population could be allowed to exist side by side with the human population without any real competition between them. The truth of this statement becomes apparent when we remember that not all the land available can be cultivated due to insufficiency of rainfall and the unsuitability of the land itself. The committee estimates that 60 per cent. of the land is unsuitable for cultivation.

Forests also have a vital bearing on rainfall and soil conservation. Experts are of the opinion that for these purposes a minimum of 25 per cent. of the area of a country must be preserved for forest. In Ceylon, this would amount to four million acres.

To meet these purposes as well as the needs of wild life, the committee has recommended that existing reserves, notably Yala and Wilpattu, be extended. The new reserves suggested are the *Baron's Cup area* south of the Polonnaruwa-Valaichchenai road, to compensate for loss of Vedakachchi and Wasgomuwa; *Mahaveli Ganga strict natural reserve*, excellent land for elephants; *Sinharaja Forest* for the preservation of south-west low-country fauna; the *Horton Plains reserve* for relic fauna; the *Labugala* and *Kitulana tank reserves* in the Batticaloa district for elephants; the *Bundala Lewaya reserve* in Hambantota, for water birds;

the *Madhu Road area* for deer and jungle fowl; *Castlereagh dam site* a sanctuary for birds and the *Hikkaduwa coral reef*.

The total extent of land now reserved for wild life is only 1,599.3 square miles or 1,023,574 acres, which is 1/16th of the total land area. Of this, 1,500 square miles, or 94 per cent. of the total, is in the dry zone. The implementation of the committee's recommendation would greatly increase this area and make it more representative of wild life.

The preservation of the elephant, "the pride of the Ceylon jungles", has been one of the main considerations of the committee. Between 1952 and 1957, four hundred and seventy-five elephants have been lost, 239 being destroyed "in defence of crops". Besides urging heavy penalties for the killing of elephants, the prohibition of the capture of elephants by anyone other than the Zoo authorities, and the registration of elephants in captivity and their tusks and tushes, the committee has called for strong curbs on the issue of gun licences to villagers and so-called sportsmen.

The provision of jungle corridors linking the reserves has been suggested to enable dwindling herds of elephants in areas under development to pass into the bigger forests. The committee also recommend the setting up of a centre for the breeding of elephants in captivity.

The existing Fauna and Flora Protection Ordinance dates back to 1937. Though amended several times, it is still full of loopholes, making the task of those engaged in game protection difficult. To remedy this situation, the committee has prepared for the consideration of the Government a draft bill completely overhauling the existing legislation and bringing it in line with the legislation obtaining in western countries.

The committee has also recommended the expansion of the Wild Life Department; and the provision of specialised training for its staff; more propaganda in schools on the preservation of fauna; and the setting up of a national

trust or corporation for the administration of all matters pertaining to wild life.

Wild life enthusiasts are agreed that the Committee on Preservation of Wild Life has done a grand job. It is to be hoped that the Government, which gladly acceded to requests for the appointment of such a committee, would be equally prompt in implementing its recommendations.

As a first step, the Government should take

immediate action to set up the National Wild Life Trust.

The Committee consisted of Mr. K. Somasuntharam, Dr. R. L. Spittel, Col. C. P. Jayawardena, Mr. S. V. O. Somanader, Mr. Gorton Coombe, Mr. C. E. Norris, Mr. S. A. L. Elapata, Mr. H. C. Goonewardene, Mr. A. E. C. de S. Gunasekera, Dr. M. F. Chandraratne, Mr. A. S. Kohoban-Wickrema and Mr. J. A. de Silva. Mr. A. S. A. Packeer was secretary.

A Change of Attitude is Necessary

By C. E. NORRIS

WHAT has been the driving force behind the Society's attitude over the years toward our Wild Life?

This can be explained in one word—Sentiment.

Admittedly, we have gone beyond being merely emotional by pointing out the scientific and educational values but there is no getting away from it, we have centred all our arguments on aesthetic values.

In the present day, these arguments are insufficient as they do not impress Governments or politicians, whose one idea is to put forward plans for the betterment of the people, as it is these people who are able to return them to parliament or send them packing.

The Society is a strictly non-political institution but our actions must be, and are influenced by political decisions and policies that conflict with our ideas on the conservation of wild life. It is so necessary we find a stronger argument than sentimentality to put forward in defence of our ideas. We must realise and recognise wild life as a natural resource of the country by whose preservation the correct use of the land set aside for it is being carried out. No country wishes to subscribe to the wholesale destruction or elimination of one of its valuable natural resources but, strangely enough it is just this that is happening in many places in

the world and could just as easily happen in Ceylon. We must convince our Government our wild life is a valuable natural resource with a considerable economic potential.

Mr. Noel Simon, Chairman of the Kenya Wild Life Society, writing in the March number of "Wild Life", has stated:—

"The present day conservationist has inherited a situation where, for the past decade or more, the emphasis has been on preservation of wild life for its own sake. This emotional approach has, in my opinion, been fundamentally unsound in that a commodity regarded as of no economic significance will, in the final resort, be forced to yield to something that is. In the present world the case for preservation is patently weak, whereas the case for conservation is justified as economically sound".

It is obvious the argument resolves itself into economics versus sentiment and, it is equally obvious which will win in the long run.

The Tourist Trade and Education, together with the correct use of land, are strong arguments with economic potentials. The Gal Oya National Park is a perfect example of where wild life can be conserved and preserved in an area which has been allotted the task of a water catchment area for the economic stability of the country which, when fully opened up, will be a good tourist potential.

We must move with the times and change our attitude so that we do not rely on an outmoded emotional approach.

Mere sentimentality will not make our wild life secure for the future.

Nostalgia

*Jungle dawn, and the first light falling
Over the plate of the pale lagoon.
Jungle dawn, and the peafowl calling :
Sambhur, high on the far sand dune.*

*Mirrored in mind as the water's mirror
Paints a pattern of tangled trees,
These lie mirrored in mind for ever,
Bright mosaics of memories.*

*Dappled deer in the kumbuk shadows :
Storks that soar in the golden noon :
Moonrise over the Menik Ganga,
Lace of leaves, and a blood-red moon.*

*Though for a while it may lie unheeded,
In bustle of business and pleasant ways,
Slowly back to the mind comes stealing
The peaceful pageant of jungle days.*

*Jungle dawn, and a new day breaking
Over the thicket and open plain :
Down by the river the peafowl, calling,
Heralding light in the east again :
Jungle dawn.*

VALERIE JONES,
London, '57.

The "Jungle Bug"

By PATSY NORRIS

SO often am I asked, "Why do you always go to the jungle for leave, why not Colombo with the Mascarilla, or even Nuwara Eliya and the comforts of the Hill Club?" I am afraid my look of horror at such a suggestion causes my enquirers considerable amazement and they just label me a "crank". For, you see, a long time ago I was bitten by the "Jungle Bug" which infected me with the "disease" from which, I am so thankful to say, there is no cure! It is very hard to make those who have not been bitten understand what sheer heaven it is to go on a jungle safari.

From the first moment of planning one's excitement increases. Sitting discussing where to go; for how long; the equipment required; and other various details, such as making lists of stores, etc., which, for a week's safari is quite a considerable item, as it is not only for one's own party, but for all camp servants and trackers as well. And once in the jungle there is no delicatessan round the corner should one run out of anything! So it behoves one to

work everything out to the minutest detail. Then, as the time draws nearer, there is the going through and checking all camping equipment, making sure nothing needs the odd repair and that everything is in working order with nothing missing. Then comes the great packing up! The Land Rover has been serviced and stands all ready in the garage, and the loading begins. There is a great art in packing up a Land Rover, especially the 88 inch model, as every spare inch counts. Full safari equipment with tents, etc., is quite a formidable load needing careful packing and stowing especially in regard to foodstuffs. I well remember an incident when we were in Africa, of a party, out on safari, whose large tin of spare petrol had leaked all over the bedding rolls, not exactly pleasant when one had to live with the bedding rolls for the next week!

When we set off on a safari we always try and leave any time after midnight, so are called with a large cup of strong, black coffee, bread and butter and plantains. The first moment of waking may be difficult, but as soon as we

remember the reason we are up and dressed with alacrity, and climbing into the Land Rover. Travelling at that time is wonderful. A clear, starlit night beautifully cool, with every so often the heavy, fragrant scent of some jungle creeper being wafted on the air; and, as we pass the paddy fields the noisy croaking of frogs rings in our ears. Having clear roads with no traffic we spin along and, as every mile speeds by, our spirits rise. The first, grey streaks of dawn come with the sky paling and gradually taking up the glorious soft colours of a sunrise, until the sun itself makes the clouds streaks of flame across the sky. The keen air has made us ravenous, so we stop for our picnic breakfast, perhaps beside some jungle tank where we can watch the birds fighting round, maybe also seeking their breakfasts. Our appetites appeased, we set off once more to arrive at our camp site whilst the sun is not too high so that we can get the tents pitched, and camp set up before it is too hot.

Our camp site may be on the banks of one of the large rivers, under beautiful, big, old and gnarled Kumbuk trees, with the river itself at very low ebb flowing gently over the white sand; or, in the very dry weather, almost dried up with only a thin trickle of water between odd pools, and every now and then will be found a large hole where elephants have been digging to find the fresh clean water. All the game tracks over the sand of the river bed can reveal so many stories for those who know and can read them. On the other hand, we may be camped under some big Madan trees out on a plain, looking towards a large rock-outcrop rising above the jungle fringe. We can hear the surf of the breakers roaring away on the other side of the sand dunes, and where, when sitting out in front of our tents in the evening, sipping our whiskeys, we can see, in the light of a torch, myriads of shining, golden eyes as we are surrounded by a large herd of spotted deer grazing on the outer fringe of the camp lights. But wherever it may be, the beauty surrounding us is breath-taking, whether it be river bank, plain or park-country.

Our days whilst camping may be spent sitting at water-holes for the whole day, or along the river banks, waiting with our cameras on their tripods "at the ready" for the game as it comes down to drink. I have had it said to me "How can you sit all day at a water-hole, don't you get bored?" Bored! That horrid word, thank goodness, is not known in the jungle. How could anyone ever be bored sitting at a water-hole with so many things to watch, see and film. Even, if for a time, the larger animals are not present, there may be smaller ones, or even insects, all of which are vastly interesting. Also, there are always birds of all varieties coming down to drink or bathe to keep one enthralled.

During the hottest time of the day for perhaps an hour there is generally a lull, this is the time when we have our picnic lunch. Though often has been the time we have had to interrupt it to get back to "camera stations" when, perhaps, a small herd, or family party, of elephants have decided to come and have their midday drink. We may even have to do a stalk to get some good film, which often ends up by having to do a "tummy wriggle" over sand, as I once had to do to get some shots of crocs feeding off a dead buffalo in a pool of a dried up river. It was not easy as I was hampered with the big cine camera, but was well worth it especially when the results on the film came back which turned out to be good.

We may decide to spend the day trying to locate, and track a herd of elephants to find out their migratory routes as well as to study them. On one trip, not so long ago, we set out to locate a herd, finding them feeding and resting during the heat of the day in a small mangrove swamp. For well over an hour we lay on our tummies beside a small winding stream of the swamp, watching this herd of eleven and we, in turn, were being watched by a lazy, old croc from only a few feet away! We were utterly fascinated, especially when one of the young calves decided to have his siesta, he lay prone on the ground with the rest of the herd grouping themselves round and over him, so we could only just see him lying amongst a forest of legs.

Days in camp are by no means lazy in spite of sitting, perhaps all day up river or at a water-hole, as more often than not we are up and away before dawn, coming back to a very late breakfast, to be off again by three p.m. not returning till dark; should we decide to take our lunch and spend the whole day at a water-hole, then before setting off we have a very early breakfast and not returning again until dark. We are woken up very early in the mornings by the cacophony from the hornbills roosting in the trees around us, and the dawn chorus of all the other birds, which would, no doubt, jar the "morning-after-the-night-before" heads of those who prefer Colombo Night Clubs, but which to our ears is better than all the "rock'n'roll" and modern jazz!

In the evenings, sitting out under the stars, sipping our drinks, whilst listening to all the various jungle, night calls I sometimes think of

those people who wonder why I go to the jungle instead of Colombo or Nuwara Eliya. It makes me sad to think what a very great loss is theirs, for they don't know the real Ceylon with the beauty and the peace and the utter loveliness that it holds, theirs is only the man-made artificial Ceylon. So when I creep under my sheet on my comfy camp bed, either out under the stars, or if the weather is temperamental, in our tent, lying listening to the sharp, staccato barks of the spotted deer, knowing a leopard is on the move, or the "honk" of a sambhur who has got the wind of our camp, or even, may be, the loud howls of an amorous pair of bears, or the trumpeting of a herd of elephant, I send up a little prayer of thanks to the "Jungle Bug" that bit me, coupled with a very big Thank You to my husband who taught me the love of the jungle.

Wild Life Photography

By C. E. NORRIS

NOT so very long ago photographing Wild Life was an untried sport, only indulged in by a few ardent naturalists. Hunting and stalking with the rifle still being considered the sport par excellence; no doubt great satisfaction was given to the shooting man when he obtained a really fine trophy, only to spend the rest of its days starting down from a wall as something inanimate waiting to be desecrated by moths and silver fish. A great many thrills await the shooting man when he hunts on foot bringing himself to the level of his quarry and, at times, exposing himself to dangers. What can be more dangerous than tracking up a wounded leopard or trying to come to terms with a contrary old buffalo-bull that has been wounded? Quite a number of sportsmen have met their end whilst hunting elephants. Even so, many sportsmen have been bitten by the camera bug, so

much so, they now leave their rifles behind in the gun case only arming themselves with a camera. Once this bug creeps into the system an incurable "disease" is inflicted upon the hunter. He soon realises this new sport has just as many thrills and many more attractions; it also has its disappointments and failures which offer a challenge to his skill and patience.

One of its greatest attractions is that an animal that has been photographed is left alive to give others the pleasures it has given you. Also you have obtained a living trophy that can be enjoyed by many others.

Photography often requires greater skill than shooting as it is necessary to get so much closer to your quarry in order to obtain a really good "shot". Very passable results can be obtained from the comparative safety of a car using either a movie or a still camera. Even this calls for skill in manoeuvring the vehicle to

a suitable position to make the most of the light and the surroundings, often this is not possible, so the photographer has to make the best of the situation. There is always an element of danger attached when photographing elephant, especially if one tries to get just that little bit nearer to obtain a really fine "shot". I remember once, in Ruhuna, coming upon a queue of fish-lorries and visitors cars stopped because of a very fine bull elephant on the road. This old gentleman had been quite adamant that the lorries were not going to pass him until he considered it was time; every time the drivers edged their vehicles forward they were met with a determined demonstration,

this was too much for one of the cleaners who had been unable to control himself and had had an accident, much to the amusement of the driver of the second lorry! We saw an excellent opportunity of obtaining a really fine picture as the bull was an exceptionally good specimen. I took our Land Rover up an old disused track coming back onto the road in front of the elephant and the lorries, I was able to edge my way slowly into an admirable position only some twenty yards from the bull, with a clear get-away in case of trouble. Movie and still cameras went into action, when all of a sudden there was a squeal of rage as the bull charged at us with his trunk rolled up in his mouth. A "mantram" from the tracker stopped him in the middle of the road only some eight yards from the Land Rover, it was a tense moment, as he stood undecided with one foot raised and his ears extended. We

waited with the engine ticking over ready to make a hasty exit but, the bull decided to leave us, slowly turning and making his way back to the jungle.

I feel there is a greater satisfaction in filming



a leopard than in shooting one. How many times does a leopard present itself in good light for a photographer? I have heard so many tales of photographers in Ruhuna, returning to their bungalows when the light has gone for photography to find a leopard on the road, sitting and just watching them whilst they are helpless to record the incident. A friend recently had three leopards round his car, with one rolling in the dust just in front and the others lying on the edge of the road. All he could do was watch and get the scene imprinted on his mind but not on film as the light had completely gone. This is just one of the frustrating trials this sport offers to try one's patience.

Sometimes providence or fate decides you have had too much frustration so gives you a break; this is not often but when it does happen a real "red-letter" day can result.

Such an occasion was offered us about three years ago. We had decided to concentrate on a certain water-hole which showed every indication animals were visiting the water. We made no attempt at putting up a hide, just sitting ourselves in the shade of a tree with a bush behind us to break up the background. For three full, wonderful days we stayed put photographing elephants, spotted deer, sambhur, buffalo, bear, pig and a leopard. We had our moments of excitement especially when a tusker advanced straight towards us. I am not sure who was the more surprised—I think it was the elephant—but he left peacefully whereas he might have charged. A family party of elephants also gave us a “turn” as they came to the water from an unexpected angle. Mum showed resentment for a moment but all was well. Our biggest thrill was the leopard. We had decided to pack up for the day and return to camp, just as we were dismantling our cameras, some deer started barking nearby; immediately we all said “Leopard”, so made a wild dash back to our positions quickly checking cameras. Within five minutes we were rewarded by the most wonderful view of a leopard coming to the water. As he left the bush, he sat on his haunches carefully surveying all around him, how he missed seeing us remains a mystery. Having satisfied himself all was well he gracefully came down to the water, settling himself for his drink; the whole time cameras whirred and clicked but he didn't seem to hear them, once he looked straight at us from a range of forty yards registering no sign of recognition. At the approach of a solitary elephant, the leopard took one look at him and bounded away. Fate had certainly been kind to us and given us a wonderful break, but do not always expect such treatment as it so rarely happens.

I would offer a word of warning to those of you who are in the habit of using dust caps over your lenses. Be careful to check you take them off before taking your photograph—many fine records have been lost through overlooking this elementary procedure. In the excitement of the moment the most elementary points can be overlooked, even quite experienced photographers get caught.

A day spent in a hide at a water-hole can be intensely interesting as there is seldom a dull moment, even if the larger animals are not coming there will always be birds either drinking or bathing or flitting about in the trees. Bird photography is a more specialised pastime as it is generally necessary to concentrate on one species with the use of a hide at its nest; also being smaller, birds require a close-up technique necessitating the use of high powered telescopic lenses or large, heavy cameras.

The ambition of a shooting man is to obtain a record trophy or to better the one he has already collected but, unlimited scope presents itself to the photographer as no two pictures are ever the same. One never knows what is going to be produced round the next corner; it is a game of expectation and patience often presenting the greatest joys of achievement and, often, bitter disappointment. The suspense of awaiting the return of one's pictures or films can be agonising so that when they are received one hardly dares open the packet or run the film through the projector. But what a joy and thrill a good picture can produce, it quite makes up for the disappointment of a failure. Don't be disillusioned that you can take up this sport without disappointment because you can't, but even modest success spurs you on to obtain better efforts which makes it one of the most fascinating of sports.

Over-populated Eden

By LEANDER

In Observer

IT is astonishing how much small wild life still exists in Colombo gardens.

Take ours, for instance. True, we live technically outside Colombo; but we are no more than half a mile from the city limits as the crow flies. And yet, there is a most gratifying assortment of wild creatures that haunt our garden.

It was only last evening that we watched a young leveret feed across our lawn on what must have been a still unpractised, if not his first, foraging expedition. He wasn't afraid of anything; and Piggy, our dog, who might have destroyed his childish confidence, was asleep on the sun-deck just above him. We had often seen an adult hare in the wilderness at the end of the garden. But what we had taken to be one hare must have been two, as the little leveret proved.

A family of big red mongooses also live in the same wilderness. I mean they belong to the big species; for one of them too, is still quite small. They are often to be seen at dusk slinking about under low bushes and often venturing boldly out into the open.

I have no doubt the mongoose are well enough off for food; for, apart from several neighbours in the slum "garden" across the fence, who have the hardihood to attempt to rear poultry without either cage or run, there are many families of *korawakkas* who live along the edge of the canal that borders the other side of our property; and there was never a place more rich in a population of skinks, geckoes and other lizards, than our land.

Best of all, no doubt (from the mongooses' point of view) is a not inconsiderable population of snakes. There are cobras that occasionally sun themselves within view of, but at reasonable and respectful distance from, the house; a large yellow-grey rat snake has once had the temerity to explore upstairs in the house. Seba's Bronzobacks may occasionally be seen

on the thorn trees that overhang the fence; harmless if bad-tempered little wolf snakes sometimes (though with becoming infrequency) pay calls indoors; and dog-faced water snakes—*diyabariyas*—are not uncommon in the canal.

True to their actual disposition (though belying their ferocious expression) the *diyabariyas* have never *kapi* anybody's *kakula*. But, faithful to the old nursery rhyme *cabaragoyas* (water monitors) of a disconcerting size *vatakarapi* every *linda* in the vicinity of the water in considerable numbers.

A surprising variety of life breeds in or near the confined, salvinia-infested and all but stagnant waters of our canal. Long-legged olive-green frogs, black horse-leeches and barbelled catfish inhabit the coffee-coloured water, not to mention a host of insects—including, alas! mosquitoes of shocking proportions, by the swarm! White-faced *korawakkas* (white-breasted waterhen) and small hunched herons rest in the thickets along the banks. In addition to cerberus rhynchops. I am sure that I should find the chequered keelback by the water and the buff-striped keelback not far away, if I looked; but I dislike snakes. The *cabaragoyas*, of course, make their home along the canal too.

Piggy once "treed" a *cabaragoya* on the top of a 5-foot concrete fence-post. It was a 5-foot *cabaragoya*, at that; and it teetered on the 5-inch square top of the post, like one of the Zoo elephants on its barrel, while Piggy kept snapping at its tail, keeping the *cabaragoya* spinning round and round to keep its tail out of harm's way hissing like the safety-valve of a locomotive blowing off.

I don't know how many *thalagoyas* (monitor lizards) inhabit our garden; but one of them is a creature of very settled habits. Every afternoon at about half-past one, when the aluminium roof is at

its hottest, he climbs up the dead and snapped off branch of a mango tree just outside our bedroom and thence fetches a leap onto the eaves. What he can want on that grilling hot roof I cannot imagine ; but whatever it is he apparently wants it badly. It is (for him) a perilous leap. For the stump ends 18 inches from the eaves and 3 feet below them ; and a *thalagoya* is not adapted to sudden saltation nor to climbing about on smooth sloping metal.

For a brief minute he pauses at the top of the branch, thinking about it and screwing his courage to the sticking place. Or, rather, to the un-sticking place. And then, at last, with a frantic leap and a desperate scabble, he is on the roof and you can hear him marching off along it—quite deliberate steps one-two-three-four, one-two-three-four, in foxtrot time. At 3 o'clock he foxtrots back.

He finds the leap back to the branch much easier, and walks down the mango tree head first.

The mango tree is another important venue of wild society in our garden. Not only is it a high road for through traffic between ground level and our roof—in which capacity it is

used by the *thalagoya*, two pole cats, several rats and innumerable squirrels—but it is also a sort of mall where the wild world of Welikadawatte and his wife—particularly the bird world—take the air.

Our garden is full of married couples. Beside me and my wife there are also the mongoose and his wife, the hare and his putative spouse and a host of uxorious pairs of birds ; a magpie robin and his wife, a Crimson-backed Woodpecker and his wife, a Black-headed Oriole and his wife, a White-browed Bulbul and his wife, a Red-vented Bul-bul and his wife, a White-vented Drongo and his wife (such details, upon my word !), a Loten's Sunbird and his wife and a very Common Babbler with enough wives to stock the harem of an Arabian Nights potentate.

These are only birds that are regular habitues of our mango tree : the garden is full of other birds including the latest arrival, a brash bachelor Indian Pitta who uses our lawn as though he had a right to it (as indeed, he has). In the two years we've lived here we have positively identified over forty species actually in or over our garden. But the birds on their own are another story—and well worth one.

“ SPOTS AT ITIGALA ”

By “ D ”

IT was still over an hour for sunset when we trailed up the sand dunes in Indian file lifting our feet quickly off the still hot sands. Manika, weighed down with fishing equipment, led the five of us, followed by R, myself, B, and Wattuwa. The previous day's heavy rains had broken the sand bar at the mouth of the lagoon and there were hopes of good fishing.

Firing a gun was the last thing on our minds, but on Manika's insistence, I carried a shot-gun and R who could never have been persuaded to be away from his rifle, carried an 8 m.m.

We were approaching the crest of a dune when B with a gasp rushed passed me, grabbed

R's rifle and disappeared over the top of the dune. I was puzzled as to what had happened to the usually placid and unexcitable B ; thinking he had seen a pig I sat down in the then hardly necessary shade awaiting his return. When he arrived he told us he had seen a leopard peer at us from over a bush. Manika went up to the bush indicated and peering low, showed us signs that three leopard had lain down behind the bush.

Three tracks led away and we wasted no time in following them. One broke off by the shores of the lagoon. I followed this while B and Manika followed the other two. My

leopard had run some distance along the shore and disappeared into jungle. I retraced my steps.

Coming up I saw Manika excitedly gesticulating to me to hurry. When I arrived he indicated a bush about 15 feet by 20 feet and was sure the two leopard had entered it and not come out. True enough, further investigation found this to be so, as no tracks led out of the bush though there were signs to show that they had both entered the bush in a hurry.

The bush had the lagoon on one side and a high sand dune on the other ; while the upper end faced a stretch of loose sand leading up to the sea. Manika and I guarded the lower end.

R had never shot a leopard and we rushed him up the dune to cover the upper end and the stretch of sand while I sprayed the bush with No. 8's from one barrel of the shotgun keeping an S.G. in the other. No growl answered the hail of small pellets and there was no sign of leopard. Manika standing by me was obviously puzzled. Re-tying the handkerchief round his head, as I have often seen him do in similar circumstances, he advanced towards the bush, at the same time muttering to himself in the manner of real jungle folk. He had a heavy army khaki shirt unbuttoned in front and hanging loose over his sarong which was as usual tied double at the waist. As he got ahead of me, I broke open my gun. Manika then bent down and peered into the bush. Immediately there was a paralysing roar and the next thing I saw was Manika down on his face with a female leopard attacking his hind quarters (buttocks).

I snapped my gun closed but found I could not shoot as there was danger of hitting Manika. It did not take him a fraction of a second to reassert his instincts of self-preservation. With a loud call to me he grabbed the two forearms of the leopard which were by now on each side of his two thighs, and flung them away from him. At the same time he got on his knees and crawled very fast towards me. When he was

about two feet away from me, the leopard again grabbed him with his paws, but luckily the claws became entangled in the heavy shirt which was now flying loose behind him. A split second later they were passing me and I got a quick glance of wide open jaws and green eyes glaring with the fire of hate. Almost instinctively I extended my gun, the butt was on my hip and at the same moment the leopard saw me. His jaws were wide open and a couple of inches from Manika's receding posterior. There was no time to aim and I pulled trigger with the muzzle of the gun less than six inches from the animal. At the shot the leopard was thrown flat on its back but jumped off quickly enough and hurriedly re-entered the bush. We rushed up to Manika who by this time not knowing clearly what effect my shot had had, had rolled himself over a short bank to the edge of the lagoon. His face was pale but he was otherwise quite unshaken. A quick examination showed a deep tooth mark on his left buttock and several scratches along both his thighs. The loose shirt had saved his life.

When we had all recovered sufficiently, Manika and I approached the bush from the lagoon, but it was now getting dark and though we peered into every possible corner we could not make out the form of the leopard or of her companion. Aware of the possibility of serious infection from a leopard's claws, we rushed Manika to camp and attended to his injuries which luckily healed well.

The next day we combed the whole bush but we never got that leopardess. There were numerous tracks about and Manika was sure that the males had carried her body away as he had known them to do with a female in season. It was this circumstance that brought on the concealment and sudden attack. She was probably worried by the males the whole day and the No. 8's added to the fact that she realized she was surrounded ; this certainly did not improve her temper. The obvious explanation, as always, emerged too late.

The Deadly King

By A. N. WEINMAN
in *Sunday Times*

OF all living creatures snakes are perhaps feared more than any others. This is strange because some two-thirds of snakes are quite harmless and of the rest only a very small number carry sufficient venom to kill a man.

The King Cobra, the Common Cobra, the Krait and the Russel's viper and other vipers are well-known killers. There are many people who still believe that snakes sting with their tongue. Actually the tongue is merely an organ of touch.

A snake has a very efficient poison apparatus. Its teeth are long, sharp and re-curved and the venom is the product of a modified salivary gland placed behind the eye from where a tube runs along either side of the upper jaws, terminating at the centre of the gums.

Along the venom gland there is a powerful muscle which, when contracted, not only shuts the jaws but pushes the venom along the tube and drives it deep into the heart of the wound. When a human being is bitten by a deadly snake, carrying a full dose of venom, his chances of recovery are practically nil.

The poison apparatus is seen to perfection in the vipers. When not in use, the fangs fold and are encased in a sheath. When the snake opens its jaws to bite, the fangs spring out. If the fangs are damaged they will be replaced by reserve fangs.

The King Cobra is the largest poisonous snake in the world. It is found in South-East Asia, Thailand, South India and the Himalayas, over the whole Indo-Chinese sub-region, upper Burma, Southern China, the Malay Peninsula and the Philippines but NOT in Ceylon, thank goodness!

It usually avoids human beings, which is fortunate, but it is so venomous that its bite can cause death in a matter of minutes. It is dark brown or black in colour and prefers a diet of other snakes although it is also known to take Bengal monitors (thalagoyas). Nowhere

in its range can it be said to be a common snake and, living as it does in the jungle, the chances of encountering it are remote.

It is a good swimmer and my first encounter with it was when having a sea bathe in the shallow waters between the Malayan Coast and the Dindings. I saw something swimming swiftly and thought it was a Moray eel. To my horror, when I threw a handful of sand at the moving target, it reared up—to prove a huge King Cobra. As it looked at me with very sinister eyes, I beat a very hasty retreat.

Average specimens range from 13 to 15 feet but 18 footers have been recorded. There used to be a planter at Port Dixon in Malaya by the name of Ken Leonard who had quite a collection of these reptiles. He even had the nerve to handle King Cobras but the same man shook like a jelly and never left his shelter when the Japanese planes came over!

The colour and markings of the King Cobra vary with age and locality, shading from dusty brown to yellowish olive green with whitish and yellowish bands, four in the head region, 32 to 44 on the body and 10 to 12 on the tail. The belly is mottled with black or it is barred or maybe plain. The undersurface of the neck is creamy white and compared to the common cobra the hood is small for its size and the absence of the spectacles of the common cobra is noticeable.

The only markings on the hood are the four yellowish or white bands which can be seen very clearly when it is expanded. The Hamadryad or King Cobra is notorious for attacking human beings unprovoked. but this is true only during the breeding season when the instinct for parental care is greatly in evidence.

The King Cobra makes a nest of its own consisting of dead leaves and twigs. This resembles a bird's nest and is about 18 inches deep from top to bottom and about 3 feet broad at the widest.

The nest has two compartments, upper and lower. The eggs are laid in the lower compartment which is laid with soft dead leaves. The upper chamber is separated from the lower with layers of sticks and leaves and the snake coils up to brood in this. Both male and female are said to share in the incubating.

Human beings going anywhere near these nests are chased by the snakes who jealously guard their homes. I can vouch for this as I myself have had this dubious honour in Malayan jungles.

The King Cobra lays 30 to 40 eggs at a time, each bigger than a duck egg. They are leathery and of a dirty white colour. The babes are about 20 inches long and are jet black with yellowish chevron bands.

The Dehiwala Zoo has a beautiful specimen over 15 ft. long. It was obtained from a Swiss naturalist who had about 100 or more King Cobras on board ship, each packed in a little wooden crate with a small window, covered with fine safe mesh for ventilation. To the writer's surprise the gentleman offered to exchange the biggest he had for a pair of Wandura monkeys. The offer was accepted with alacrity and the exchange took place on the ship.

After taking up each crate we selected the heaviest: we then got on the lighter, quite satisfied that we had selected the biggest snake. We were not so happy, when the Swiss naturalist

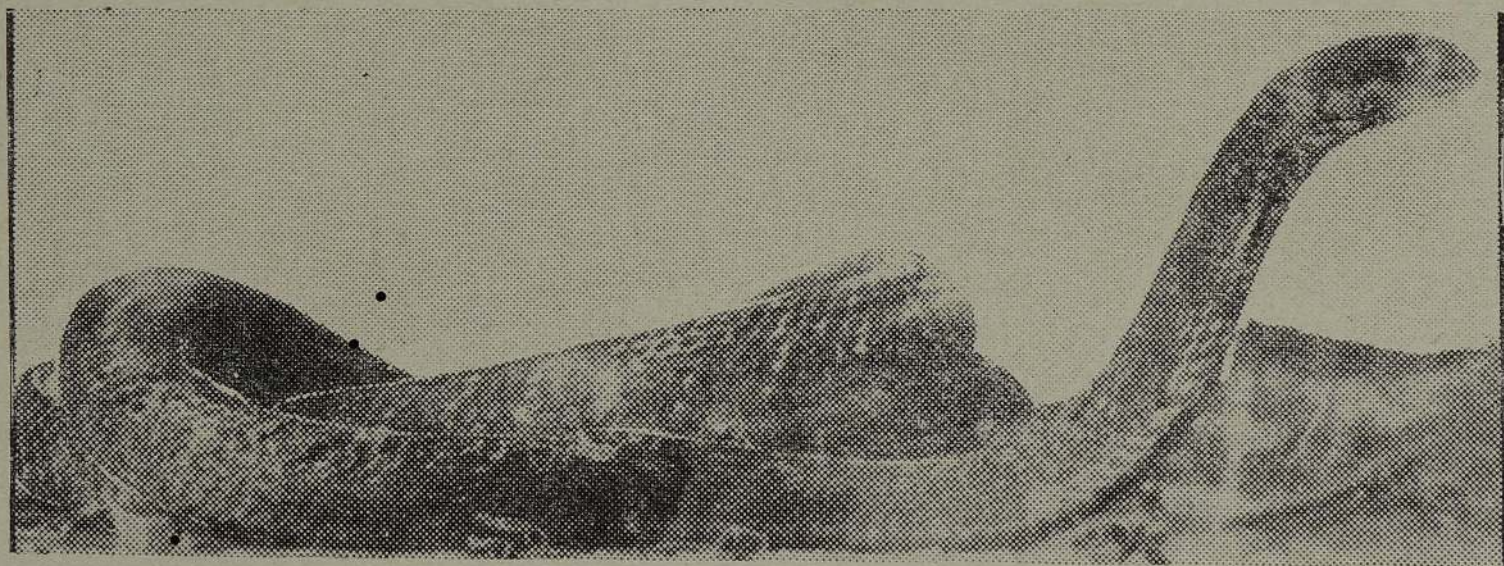
clambered down the gangway, as the lighter pushed off and said. "Hey, you be careful. That King Cobra cost me 3,000 tickles. He was so big and strong that after he was noosed, he bit the elephant I was riding on the hind leg and the elephant died in 35 minutes. I wish you luck."

I have had this reptile over 10 years now and he is really a beauty. The King Cobra is said to be an intelligent creature and I have no doubt about this. It displays quite a remarkable intelligence in captivity. For instance he soon learns that there is no earthly use striking at the glass front of his house.

Our snake feeds regularly about once a fortnight and its diet consists of cobras and rat snakes, but he is fastidious and will only eat big ones. An occasional thalagoya is relished by him. There is no doubt that it is immune to bites from other cobras. It can move pretty fast and it is the enemy of its own kind, because it is a cannibal.

Snake poisons, for centuries, have been used for various medicinal purposes, but it is only during the last 50 years that their value has been recognised by Western medicinal science.

Physicians in the East had noted the wounds from King Cobra bites did not bleed in certain cases and that the blood immediately clotted. This suggested a cure for haemophilia, a disease in which victims bleed to death if they receive



King Cobra

the slightest injury. It is called the disease of kings, because it was found to prevail amongst the Royal Families of Russia and Spain.

The collection of snake venom is now resorted to and in fact there are snake farms in Bangkok, India, South America and the United States. The snake is held by its head and made to insert its fangs on the silk cover of a wine glass. By careful massage of the poison glands the venom is extracted into the glass without any contamination by liquid from the snake's throat. The venom of the King Cobra acts similarly to that of the common cobra, producing death by paralysing.

It has been estimated that a King Cobra can discharge about 10 lethal doses at a time. No wonder that even an elephant will succumb if bitten. I recollect Col. Williams (Elephant Bill) informing me that this snake is responsible for the deaths of large numbers of elephants in Burma.

The King Cobra kills by fixing its fangs in the flesh and biting its victim. A chewing action disperses the yellowish venom which is discharged so quickly that the result is almost instantaneous unless antivenine is immediately injected intravenously. If bitten in an extremity and antivenine is not available amputation may save a life.

The victim usually dies within an hour and often more quickly depending on various factors, such as the amount of venom injected, the health of the person and other considerations.

The poison acts on the nervous system and death is caused by the respiratory centre of the brain becoming paralysed and the victim's inability to breathe. Very great care should be taken when handling a defanged cobra because the skin could easily be broken by a bite from the smaller teeth and the poison from the broken fangs getting in from the punctures caused thereby.

There is a widespread belief that King Cobras hunt in pairs and that if one is killed, the other will trail the killer to avenge the death of its mate. I heard several stories of this when I

was in Northern Malaya and I believe that the origin of this legend is the fact that during the mating season these reptiles are found in pairs.

When stationed in Taiping, during the last war a story was related to me of an instance where this took place in the very bungalow I was occupying, although I cannot vouch for its authenticity.

The incident took place between the two great wars when a British regiment was stationed in Taiping, in North Malaya. A young subaltern named Nelson Gourley returned from leave in England married to a very charming girl whose name was Margaret. She was described as being a very beautiful-redhead but, as she looked rather frail, the chances were that she would not be able to stick the climate which was rather trying.

Strangely enough she was able to stand it very well, in fact better than her husband, and very soon she settled down to the new conditions. She took a great pride in her house and garden and became very popular in the station. Her dislike and terror of snakes was the only thing she could not resign herself to and she never seemed to be able to get over her dread of these creatures.

If she heard of a snake being seen anywhere in the vicinity of her house she became hysterical and made herself thoroughly unhappy. Her husband had gone so far as to offer a reward for every snake killed and brought to him for inspection. The whole station were aware of her antipathy and as usual, much advice was proffered as to how to cure her of this fear.

One evening when she was out visiting a sick friend, her husband was seated on the front verandah with three officer friends, Ross, Lacey and O'Brian, enjoying a drink when the Kabeun (garden labourer) appeared with a basket from which he gleefully produced a dead King Cobra which he had killed in the herbaceous border. He was given his reward by Gourley and ordered to dispose of the carcass before his wife returned.

O'Brian signalled to the Kabeun to wait and turning to Gourley he said: "This may be just the one chance of curing Margaret of her dread for snakes. As you know, I myself was similarly afflicted till some fellows introduced a dead cobra into my room. When I saw it I let off a yell that must have been heard miles away, as I dashed out of the room. The others were all in peals of laughter and when it was pointed out to me that the snake was dead as a door nail, I realized how foolish I had been and I joined them in their hilarity. Somehow, from that moment, I seemed to have got over my dread of snakes, and I ceased bothering about them after that memorable incident.

Why not try the same thing on Margaret?"

"What do you mean?" said Gourley, "Put this dead King Cobra in her room?"

"Yes of course, it would only give her a scare but if this is going to cure her it will, certainly be worth it, don't you think? and even if it doesn't work, she will only have a scare, which she will probably get over before dinner time."

Gourley was not at all convinced and asked the other two what they thought. Ross advised against it and said he thought the reaction of a woman might be very different from that of a man, but Lacey and O'Brian both said that Margaret was a strong character, well able to cope with life in Malaya, as well as most men, and ridiculed the idea of the shock being too much for her.

"All right," said Gourley to the Kabeun. "Wipe the blood from the snake and put it into the lady's room." As the man hesitated he said. "Do as I tell you, it will be quite all right. Coil it in a lifelike manner on her bed."

Just as it was getting dark Margaret returned and after greeting husband and others, chatted with them for a while and went into the house. They heard her open the door of her room and switch on the light. A few minutes later there was a piercing shriek followed by scream after scream which died down to a moan. Then

there was dead silence. Gourley got up and attempted to rush into the room but was held back by O'Brian.

"Don't spoil it. Let her come out of her own accord and very soon we'll be having a hearty laugh."

"Laugh!" Gourley replied. "I was a damn fool to have listened to you and allowed this. She has probably fainted through fear."

He went into her room to find his wife in a heap on the floor. Her eyes were wide open and she was gasping for breath. He bent over her calling her name. Then O'Brian suddenly shouted, "Look out, for God's sake, there is another King Cobra!" And sure enough there it was gliding out silently to disappear under the bed.

Gourley carried his wife into the adjoining room and put her on the bed. Bluish fang marks were found on Margaret's calf and though she was still conscious, paralysis had already set in and she had lost all control of her muscles. Gourley tied a tourniquet; O'Brian injected antevinine and Lacey ran for the staff surgeon.

Meanwhile, Ross went back to the room where the cobra was and closed the door so that the snake could not escape, into the other room. Revolver in hand he entered gingerly and found the snake in the middle of the floor eyeing him with beady eyes and he could hear its menacing hiss. He edged towards the window and closed it so that it could not get out that way.

He then quickly got out of the room leaving the door half open. He took up his position outside and watched for the snake to appear. In a few minutes the killer glided slowly out. He then took aim at the head and fired. The snake reared up hissing, and hurried on its way out. Ross fired again and missed. Before he could have another shot, the snake was out of the house and into the darkness outside.

When the doctor had arrived Margaret was past all human aid. The King Cobra had avenged the death of his mate. Poor Gourley

never got over the shock and is reported to have left the army and drunk himself to death

in Singapore. The truth of this pathetic tale cannot be vouched for.

Fresh Water Fishes of Ceylon

By ROMAN W. SZECHOWYCZ

IN the 16th century a Venetian, Nicolo di Conti visited Ceylon and in his memoirs are described some of the Ceylon Flora and Fauna. Referring to fishes he reported that in one of the rivers, which he calls "Arotan" there is a fish "somewhat like a torpedo" which produces fever as long as it is held in the hand "relief being instantaneous on letting it go".

It is now difficult to guess the fish he had described, but it is a fact that fresh water fishes were in the past and are even now unpopular and are consumed only by the poorest. In fact, it is believed, and in certain cases even proved, that some of them are in certain seasons poisonous. The general prejudice against the fresh water fishes is however slowly dying and especially after the introduction of many exotics, more and more fishes find their way to the market.

According to data, there are altogether 856 fish species in Ceylon waters and of these only 52 are fresh water species, but most of these have a very low or no commercial value due to their small size or muddy taste or small quantity available.

MAHSIER.—The larger Ceylon fresh water fish the Mahsier, (Lehella, Hora-paleya (S), Pu meen (T), Tor khudree longispinis (Gunther), the dream of many sportsmen reaches a length of 5 feet and a weight of 30 lbs. in Ceylon. This fish is found in turbulent mountain rivers and it is very sensitive to the deficiency of oxygen. It is a vegetarian, and often feeding in the dry season upon flowers and roots of *Acacia caesia* (Wild), *Derris scandens* (Benth.) etc., results in the flesh of this fish becoming poisonous. Deraniyagala reports that he himself was once

poisoned by eating the flesh of mahsier. He states :

"The villagers affirm that the poisonous parts are the eyes, gills, skin, fat and stomach of the fish which should be detoxified by skinning and either smearing it in wood ash and keeping it for five hours prior to cooking, or chopping it up and soaking it in lime juice, or cooking it with leaves of *Maringa pterygosperma*."

The months when the fish is poisonous are April, October, November and December.

In Gal Oya Valley the biggest specimen caught was 18 lbs. in weight and at Makara (confluence of the Gal Oya with the Senanayake samudra) one forest officer had shot a mahsier which hit the scales at 12 lbs. The abundance of this fish in the Gal Oya river (at Nilgala, etc.) is most probably due to the fact that this river is one of the few in Ceylon in which in the past years no dynamiting was done due to proper protection in connection with the management of the watershed.

Philip Crowe (the former U.S.A. Ambassador in Ceylon) has recorded :

"The name Mahsier is said to be derived from the Sanskrit word 'matsya' meaning fish, and as a sacred fish it is preserved in many of the temple tanks in India. Other students say, 'Mahsier' comes from the Persian word 'Mahi' also meaning fish and 'Sher' meaning lion and certainly there are few fishes in the world with the Mahsier reputation for fighting qualities."

The Mahsier, it is reported further, is capable of fighting 2 to 3 minutes per pound of his weight

and Crowe reports that Mahsiers of nearly 200 pounds have been found, when artificial lakes such as those near Mysore were drained.

Sam Elapatha Dissawa, Member of the Wild Life Committee, told the author, that many years ago, when he was still a young boy, he witnessed a deep pond in one of Ceylon's rivers dynamited and a mahsier taken of such size that six men were required to carry it. Unfortunately no measurements were taken of this giant fish; but the fact remains, that this nearly dead mahsier in its last attempt was able to shake off five men and make a final rush to the depths of the pond taking along with it the sixth man, who hung on to it by a grip on its gills; and the fact that it took a considerable time before the fish and the man, both completely exhausted appeared again on the surface of the pond, put this Ceylon mahsier (and perhaps many others killed by dynamiting), in the rank of the "Mysore Mahsiers".

The mahsier belongs to the Carp family of fishes and has in Ceylon many relatives—but only five of them grow to a considerable size. The first is the *Olive barb* (Mas petiya, Petiya, Vellankola petiya (S), Poddian (T), *Puntius sarana* (Ham. and Buch.), which grows up to a length of 14 inches and is very common but being extremely bony has a low commercial value. The second is the *Long-snouted barb* (Bin gattaya,

Honda petiya, Kattu kuriya, Kureya (S), Kendhai (T), *Puntius dorsalis* (Jordan)—which reaches a length of 10 inches, quite common but bony. The third is the *Common labeo* (Hiri kanaya, Gan kanaya (S), Kannian (T), *Labeo dussumieri* (Val.), a very common fish in larger tanks, but in certain seasons believed to be poisonous, attains 14 inches. The fourth is the *Mountain labeo* (Gadaya, Kalu gadaya, Vali gadaya (S), *Labeo fisheri* (Jord. and Starks)—which grows to a length of 13 inches and is found in mountain streams only. The fifth is the *Orange fin labeo* (Tambala vanna, Tambalaya (S), *Labeo porcellus lankae* (Deraniyagala), which grows to a length of 12 inches and is quite common in the dry zone tanks but has often a very muddy taste. There are many other members of this family—which grow, however, to small sizes only, and are occasionally harvested in large quantities when water in tanks drops; after drying they provide the poor with food.

FRESH WATER SHARK—VALLAYA.—The second large representative of the fresh water fishes is the *Fresh Water Shark* (Maha vallaya, Vallaya (S), Vallai (T), *Wallago attu* (Bloch and Schneider), which belongs to the Cat family of fishes. It is nocturnal, has a body without scales and grows in Ceylon to a length of 5 feet and reaches a weight of 28 pounds. It is a predatory fish and attacks even small birds. Its flesh is not

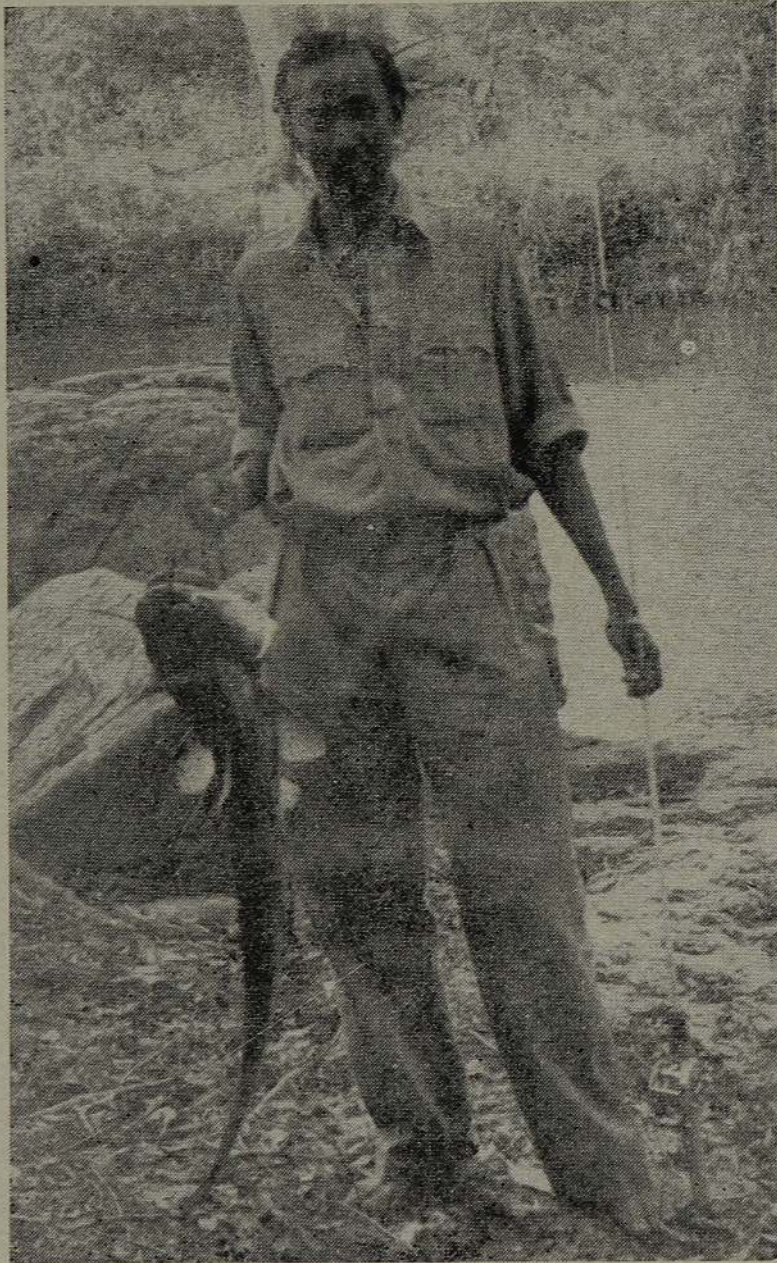
popular but when properly prepared it provides a really delicious meal. Rivers and tanks in the Gal Oya Valley are swarming with this fish, and in the Gal Oya river at Inginiyagala many visitors have succeeded in catching in one day as much as 100 pounds. It is no wonder, as this fish is attracted by water currents against which it swims (rheotropism) and when all other rivers and tributaries of the Gal Oya run dry, water in the Gal Oya is always flowing out of the Sena-



A catch of Vallayas

nayake Samudra attracting fishes. Sometime ago water was released from the reservoir through sluices, and when the flow of water was suddenly stopped, over 200 Fresh Water Sharks were collected from the remaining small water-holes in the channel, each 15 to 25 pounds.

The sportsmen in the Valley, when fishing for this fish use casting rods with spinners, and one of the "fishermen stories" has to be recorded in this connection. In May 1956, a visitor to the Valley using a spinner fished out of the Gal Oya river a five feet long cobra—which still hooked (and alive) was brought to the resthouse and was identified by many.



A large Vallaya

Methods of fishing other than by using spinners is worth mentioning. Hornel reports :

"Perhaps the most curious bait used is the cockroach when fishing for the giant Wallago attu, so often miscalled the fresh water shark. This strong-smelling lure is not impaled on the hook, but tied immediately above it and then lowered a few feet into the water."

He also records :

"Another ingenious contrivance sometimes used in Lower Bengal when fishing for the voracious fresh water shark (Wallago attu) is the Jota. It is arranged thus : A length of split bamboo sufficiently long for the upper end to project well above the water is planted firmly in the tank bottom. A small brass bell is affixed to the projecting end and then some distance below the surface of the water a nest of baited straw, oval in form, is tied to the bamboo pole. Concealed in the straw is a strongly barbed hook attached to the end of a strong line belonging to a powerful fishing rod held by the fisherman. The arrangement has to be most carefully contrived, for the point of the hook must be directed upwards and so loosely fixed in the straw that nothing will come in its way when the time to strike arrives. The line is then carried over the projecting end of the bamboo stick. The fisherman having finished his preparation, stands attentive, waiting the time when the tinkling of the bell shall announce that the fish is nibbling. Instantly he strikes with a rapid upward jerk. So skilful is the yota fisherman, that it is seldom he fails to hook his fish in the chin. Aromatic ground bait is employed in charging the straw nest."

The mixtures employed consist essentially of strong smelling substances bound up in clay or dough in order that the diffusion of the odour will proceed comparatively slowly. The resultant paste, made up into balls may either be thrown into the water before, or during fishing with a view to attracting fishes to the spot.

The Fresh Water Shark has three "poor relations" in Ceylon, who do not represent any commercial value. The first one is the *Butter Cat Fish* (Kokusa, Pena valapotta, Valapotta (S), *Ompok bimaculatus* (Bloch), which is carnivorous and attains a length of 16 inches. The second is the *Spotted Cat Fish* (Kaha magura, Magura, Vel magura (S), *Clarias Teysmanni brachysoma* (Gunther), which grows to the length of 12 inches, is an air breather and during rains or at night often comes out to land. When ponds are drying out, it buries itself in the mud and so survives. The flesh is quite palatable. The third one is the *Stinging Cat Fish* (Hunga, Kaha hunga, Lai hunga, Vek hunga (S), Shunken (T), *Heteropneustes fossilis* (Bloch), it is carnivorous, attains a length of 10 inches and has very sharp pectoral wings which inflict wounds when handled carelessly, hence its name. Its flesh is quite palatable.

SNAKE-HEADS.—The third important family of fresh water fishes are the *Snake-heads*. All members of this family are nest building and all are carnivorous. The nests are in the form of a clearing between the water weeds, where the parents guard the ova. All are air breathing and some of them survive the drought being buried in the mud.

The most important representative of this family is the *Murrel* (or *Striped Snake-head*)—Lulla, Halpath maha (S), Viral (T), *Ophiocephalus striatus* (Bloch). It grows to a length of 27 inches and often after rains migrates across the land. Popular method of catching it is with the use of a torch and a knife at night. When tanks dry out this fish is collected often in large quantities. Before stocking ponds with fish fry, all endeavour has to be made to clear them of this carnivorous fish. (It is done either by using Derris powder or Endrex, which is an effective piscicide in concentration of 0.008 per cent. The flesh of fish so killed is fit for human consumption). Murrel is common up to 400 feet elevation, but for "some unknown reason" as reported by Deraniyagala it is

absent in waters close to Thissamaharama. The flesh is very palatable and free of bones. It is said that when applied to wounds it is a very effective healing agent.

The first of the four relations of Murrel is the *Giant Snake-head* (Ara, Gangara, Kalumaha (S), Iru viral (T), *Ophiocephalus marulius ara* (Reran.) which attains a length of 32 inches. It has the ability to change the colour of its skin when irritated and it is often kept as a pet in village wells. Very ferocious, it is said to attack even snakes when they come close to water especially in the dry season. It is not a commercial fish. The second representative is the *Smooth Breasted Snake-head* (Gas kannaya, Kola kannaya (S), *Channa orientalis* (Bloch.) which grows to a length of 4 inches only. The third is the *Green Snake-head* (Mada ara, Madaya (S), Korruvai (T), *Ophiocephalus punctatus* (Bloch.) which grows to a length of 8 inches. The fourth the *Brown Snake-head* (Parandel kanaya (S), Para korruvai (T), *Ophiocephalus gaucha kelaarti* (Gunther), is only six inches long and can flourish in very muddy water. It is very active on land, progressing by a series of leaps especially after the rain. Once one of these fish entered the author's house, most probably from a channel which was about 250 yards away, and on another occasion one was collected from the middle of the road when travelling during rainy weather. None of those fishes have any commercial value.

PEARL SPOT.—The cichlidae family of fishes have only two indigenous representatives in Ceylon the *Pearl spot* (Koraliya, Sethela (S), Sethel (T), *Etroplus surathensis* (Bloch.) which grows to a length of 12 inches. It is a fish from saline lagoons but in Ceylon is well established in fresh waters. It is a vegetarian, very palatable and quite common in tanks up to 500 ft. elevation. It attaches its ova to submerged stones and after hatching, parents collect the fish larvae in some depressions. The young fry remain there for several days clinging to the bottom by suckers and the parents guard them for about two months till the young are about two inches

long. It is quite a difficult fish to catch and it is hardly collected in quantities to be qualified as a commercial fish. The second representative is the *Spotted etroplus* (Ran koraliya, Raha koraliya Raliya, (S), *Etroplus maculatus* (Bloch.) a small 3 inches long, beautiful olive golden-coloured fish, often kept in aquariums. *Tilapia mossambica* (Peters) introduced to Ceylon waters in 1950 belongs to this family as well.



Tilapia mossambica

6. ANABENTOIDAE.—There are four indigenous fishes belonging to the *Anabentoidae* family of fishes and all of them have accordingly the labyrinth respiratory organ which enables them to breathe air direct from the atmosphere. All those fish can remain for a considerable time on land and can thrive in very muddy water. None of those four can be considered as a commercial fish. The most popular and the biggest one is the *Climbing perch* (Kavaiya, Pol kavaiya, (S), Kavaiyan (T), *Anabas testudineus kavaiya* (Deraniyagala). It grows to a length of 6 inches and it survives the drought buried in the mud. The author has seen several times Veddas digging out this fish from the bottom of dry ponds in the jungle.

This fish can be captured by hand and it is said that fishermen when diving for it after capturing hold them in their teeth. Cases were reported, that scaled fish occasionally slip into the man's throat resulting in his death. It is not a commercial fish. The other relations of this fish the *Belontia signata* (Günther) Pulutta (S), grows to 5 inches, lives in colonies in hill streams and tanks. The *Macropodus cupanus* (Cuv. and Val.), Tal kossa (S) grows to a length of $1\frac{3}{4}$ inches and is good larvicidae fish, and the *Malpulutta Kretseri* (Deran.) grows to $1\frac{1}{2}$ inches in length. *Gouramy* (*Osphronemus goramy* (Lac.), Bubble Nest Builder (*Trichogaster pectoralis* (Regan), Kissing Gourami (*Helostoma temmincki* (Cuvier) introduced into Ceylon fresh waters belong to this family as well.

THE EELS.—The Eel family (Anguilliformes) have two representatives in Ceylon fresh waters the *Level Finned Eel* (Kakutta arndha, Kalu arndha, Mada arndha (S), Vilangu (T), *Anguilla bicolor bicolor* (McClelland) and the *Long Finned Eel* (Kaha arndha, Pol mal arndha, Polon arndha, Vali arndha (S), Puli vilangu (T), *Anguilla nebulosa nebulosa* (McClelland). The first one grows to a length of 24 inches, the second to a length of 46 inches and reaches a weight of 13.5 pounds. Both those eels are, however, only visitors to Ceylon waters, where they spend only the early stages of their life. *The eels of Asia spawn and die in the depths of the Sumatra Sea, while all American and European eels spawn and die in the depths of the Sargosso Sea, where the Gulf stream has its beginning and where according to legend abandoned ships drift.* Thanks to the research work of a Dane, Johannes Schmidt, we now know that the small larvae of the eel, which in the initial stage was classified as a

separate fish *Leptocephalus brevirestris*, which differs from the adult eel "as the caterpillar from the butterfly" begins its migration to fresh waters, reaches its destination after about three years and changes on its way into "elvers". Only females, however, migrate. The males are much smaller, reaching a maximum length of 18 inches, and remain all their life in the sea. Eels when entering fresh water travel upstream and have amazing powers of finding their way. The author once found small eels in a cistern on the third floor in a factory which was under his charge. The only way those eels could take was a small water stream from the cistern when it was overflowing. The female eel before reaching maturity, after spending 5 to 15 years in the fresh water, usually during the rainy season, returns to the sea migrate to their spawning grounds to spawn and die.

In Europe the eel is a highly desirable food. In Ceylon the flesh of eels is not popular and eels are never captured in sufficient quantities to be considered a commercial fish. The blood of the eel is poisonous, but no one is worried about this, as the poison is destroyed by high temperature when cooking or smoking.

The two representatives of "The Fresh Water Eel-like Spiny Fishes" the *Lesser Spiny Eel* (*Rata*

kola theliya (S), *Macrognathus aculeatus* (Bloch.) and the *Spiny eel* (*Theliya*, *Gan theliya*, *Oya theliya*) (S), *Mastacembalus armatus* (Lacepede), which grow to 25 inches and 10 inches respectively, belong to the family *Mastacembelidae* and are in no way related to the eel family. Both breed in fresh water, both are air breathers and both have no commercial value.

REVIEW.—The above review of indigenous fishes of Ceylon shows that there is practically not one species which can be propagated as an economical fish, worth the attention of the pisciculturist and accordingly many exotics were introduced and some of them like Trout (introduced in 1882), Gouramy (intr. 1910), Tilapia (intr. 1951), etc., have established themselves excellently and are changing the general attitude of the population to the fresh water fishes, helping to make this Island self-supporting in regard to food.

In Gal Oya Valley the fresh water fish till recently was the food of only the poorest. At present the old and new reservoirs are swarming with fish (catches consist, however, up to 95 per cent of exotics) and the fresh water fish is now included in the menu of nearly all families irrespective of financial or social status.

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THE SNAIL

*She is the day's
Soft saboteur : •
A fallen leaf •
Will harbour her,
And thrushes hold
In stark duress
Her smooth, obsequious
Battledress.*

*Each reconnaissance
She can make
Is burdened with
A shinning wake ;
So horn thrust out
Bright armour on,
She creeps her arduous
Marathon.*

JEAN KENWARD.

The Gouramy in Ceylon

By E. R. A. de ZYLVA

Former Deputy Director of Fisheries

WITH the present accent on the increasing of fish production from inland waters, the history of the introduction of the Gouramy (*Ospbronemus gourami* Lacep.) into Ceylon waters may be of some interest to Fishery Administrators in the tropics. The gouramy is widely grown in Indonesia and to some extent in Malaya, in both of which countries it is highly esteemed as a food fish. The first supplies of this fish were brought into Ceylon from Java (as the country was then known) by the late Mr. G. M. Fowler in 1900, but none of this stock survived. In 1909 a further supply was brought from Java to Colombo by the late Mr. Kelway Bamber, and these were distributed among the reservoirs at Mahavilla Estate in Ulapane, at an elevation of about 2,000 ft., at Drayton Estate in Kotagala, at an elevation of 4,100 ft., and at Hiyare near Galle, which is almost at sea-level. Some specimens were kept under observation in an outdoor cement-rendered tank in the Colombo Museum premises, where the heat of the sun in the shallow confines of the tank appeared to be having an adverse effect on the fish; these fish were therefore transferred to an ornamental pond lying below the Thwaites Memorial building in the Royal Botanic Gardens at Peradeniya, at an elevation of about 1,500 ft.

This pond lies beside the Mahaweli river, and in subsequent years there were a number of occasions on which the river rose at flood time to such an extent that the pond at Peradeniya was submerged. It is also noteworthy that the reservoirs at Ulapane and Kotagala lie on tributaries of this same river. In 1935, it was reported that a hitherto unfamiliar fish was being taken in increasing quantities by fishermen in the flood lakes or *villus* around Mannampitiya, about 100 miles down the

Mahaweli river from Peradeniya. Specimens which were obtained for identification revealed that this new fish was none other than the gouramy. If, as was believed, these fish were the progeny of those which had escaped from the stocks introduced into Peradeniya, they had survived passage through numerous rapids and over the 50-foot drop of the Victoria Falls on their way to the lowland area where they were being captured by the fishermen.

To the present day, the gouramy has featured prominently in the catches of fishermen in the lower reaches of the Mahaweli river. A fisherman at Allai, a village situated on one of the three main branches by which this river flows into the sea, told the writer in 1952 that, though the gouramy did not make up more than five per cent of the catches in that area until about 1940, it had gradually increased in abundance and was contributing about ninety per cent of the catch. The rest of the catch is composed largely of the murrail or snake-head (*Ophiocephalus striatus* Bloch), which shows that, in spite of its predatory habit, the murrail has not been able to check the increase in numbers of the gouramy.

The secret behind the rapid establishment of the gouramy in Ceylon waters may lie in the fact that the principal food of this fish consists of vegetable matter, which is available in abundant quantity in inland waters at all times of the year. There is very little significant competition from other local species of fish for this type of food, and there has been a preponderance of predatory types of fish in the inland waters of Ceylon. The gouramy held virtually undisputed sway over the enormous quantities of aquatic plant life until the introduction of *Tilapia mossambica* Peters into Ceylon by the writer in 1951. Notwith-

standing the introduction of this other species of vegetation feeder, the gouramy has continued to provide a significant proportion of the fish harvested from the inland waters of the Mahaweli system in particular. The distribution of the gouramy has been promoted actively by the Department of Fisheries during the past 15 years. All the major perennial "tanks" (or reservoirs) have been stocked, and supplies have also been introduced by private agency into ponds, plantation dams, and streams, in many of which the gouramy is now breeding freely in association with *Tilapia* and other fishes.

The gouramy is a nest builder. The eggs are deposited in a nest which is constructed of strips of vegetable matter torn from aquatic or water-side plants, fibres, etc., woven into an ovoid mass about a foot in diameter, and anchored to vegetation growing by the side of the water. The eggs are released into the water below the nest and, being lighter than water, they float up into the nest and become lodged in and protected by the tangle of vegetation which comprises the nest. Recent experiments have shown that nest-making can be

encouraged by provision in ponds of suitable material such as coconut leaves and fibre, and by fixing short lengths of bamboo in the sides of the pond just below water-level, with the exposed end split and the strands of bamboo forced apart by wedging a stone into the hollow of the bamboo. This funnel-shaped holdfast is readily adopted by breeding gouramy which make their nests out of the material which is deposited by the farmer in this frame.

The introduction of the gouramy into Ceylon and its establishment in our waters have given convincing evidence of the advantages that are to be derived by distributing vegetation-feeding fish in inland waters which are naturally well provided with aquatic plant life. The fact that the gouramy has survived and bred in environments from sea-level up to 4,000 ft., where water temperatures may drop to below 60° F., demonstrates the adaptability of this fish to life in higher elevation waters in the tropics, and suggests a means of extending fish culture operations with a species that requires little or no attention, in a region which in Ceylon has hitherto been characterized by the poverty of its food-fish stocks.

Triton Flings a Dart

By LEANDER in *Observer*

FISH LEFT SWORD IN HIS THIGH

A fisherman named Muniswamy of Kuchchaveli was admitted to Trincomalee hospital with injuries caused by a sword fish at sea.

While Muniswamy with another person was returning home early morning after fishing at night suddenly a sword fish known as "Kalinga Mural" jumped into the canoe and struck Muniswamy on his right thigh with its sword. Thereafter, the fish broke its sword which was still stuck in Muniswamy's thigh and jumped back into water.

Muniswamy was removed to Trincomalee for treatment. He was said to be unconscious when he was admitted to hospital.

ONE takes it for granted (though it is probably quite reprehensible to do so) that the labour of a fisherman is long, arduous and full of peril. But somehow, though one accepts as natural the hazards of wind and sea, one hardly expects the danger ever to arise from the fish.

It sometimes does nevertheless.

Some years ago there was that grotesque death of a fisherman near Balapitiya. He was fishing from the bank on one of those creeks, and when he caught a small fish he held it between his teeth while he re-baited his hook.

The fish wriggled, leapt down his throat, stuck in his gullet and choked him to death.

And now there's this report of a fisherman off Kuchchaveli who was admitted unconscious into Trincomalee hospital with (according to the report) the "sword" of a swordfish, broken off short, sticking out of his thigh. The swordfish, said his companions, had leapt clear out of the water, landed in the canoe with his sword piercing the man's thigh and then with one great convulsion broken off its sword and hurled itself back into the sea.

It wasn't a true swordfish, of course, and if you have ever seen one you will know why. I remember one brought in strapped to the side of a canoe at Weligama. It was two-thirds as long as the canoe itself and must have weighed eight hundred pounds.

Of course there must be younger and smaller swordfish; keeping well beyond the continental shelf which is a long way out for a two-man canoe. And the swords of marlin and sailfish, which inhabit coastal waters, are much shorter and less likely to snap.

The fish concerned was a gar (Sinh. *theliya*, *moralla*; Tam. : *mural*) with its more slender and fragile spear, some species of which, including the *Kallingu moralla* which is named as the culprit, grow to as long as 4 ft., more than a quarter of that jaw or beak, or spear, or sword or whatever you'd care to call it.

This kind of accident would seem to be not as unlikely as it may sound. The northern waters of Ceylon, where at one time I used to do some cruising around in my sharpie *Sunfish*, seemed particularly rich in these dart-like fish, and they seemed to spend a great deal of their time at the surface, occasionally leaving it in a fantastically long and high leap.

I have often seen them swimming on their tails, so to speak, from crest to crest of a choppy sea, and the speed they make in this way is something phenomenal. I used to think they did this only in flight, when pursued; but I shall never forget the sight of a big one coming up like an arrow behind my boat with a cuttlefish held crosswise in its mouth. It passed so close I could see the small needle-sharp variegated

teeth (like those of a combination saw-blade) in the slender elongated jaw. If that had struck me at that speed, it would certainly have made a hole, and the jaw was quite fragile enough to break off short even in so yielding a material as a human thigh.

The most remarkable experience I ever had with one of these scaly projectiles, however, was—thank goodness—one I didn't have myself! My boatman Soosaimuttu and I were tacking across a rather-more-than-fresh breeze in the lagoon off Kayts. Soosaimuttu was at the tiller when there was a sudden flash of blue and silver across the stern and Soosai gave a loud yell and toppled flat into the boat—*Sunfish* gybed badly; but luckily Soosai had let go of the sheet and though the sail flapped like mad we got straight again.

What had happened was that an outsize *mural* leaping high out of the water had dealt Soosai a glancing blow on the side of the head. Nevertheless it had felled him; and he was dazed for several minutes afterward—though more from outrage than from injury.

Those northern seas are full of unprepossessing though fascinating, fish. I shall never forget the consternation on the face of the then prettiest girl in Air Ceylon when she pulled out of the sea at the end of Talaimannar Pier an obscene, bristly, lemon-tinted fish about a foot long, that swelled and swelled in a moment until it looked like Wallace Beery in an unshaven part. It was a Black-spotted Blowfish—as anyone might well have believed!

Another day off the pier at Hammenheil little Selvaras, Soosai's nephew, caught a small fish about eight inches long. I cannot, alas! remember what Soosai called it—and what Selvaras called it is unprintable. Because he had no sooner taken it in his hand to take it off the hook than it gave a violent jerk and Selvaras, with a howl, let it go. Across his finger was a deep gash bleeding profusely. "Well," said Selvaras, "that's the last—whatever-it-was—I'll ever catch!"

But he was wrong. He caught one again the next day, and he cut his trace rather than try to free his catch as he had before.

I wish somebody would tell me the Tamil name. Soosai said, I remember, that it was not its teeth but two tiny bony blades, one each side of the back of its head that made the gash. As I remember, it looked like the illustration of *Batrachcephalus mino* in Munro's book on Ceylon fishes. But would it be?

It was funny, we always seemed to catch something of this sort, never anything to eat.

A fascinating thing to watch even if you can't eat them (though they are good eating) is the landing of sharks and rays from the Jaffna fishing *dhonies*. I often used to go down of a morning to the Pannai causeway, where many of these big boats used to land their catch. I once counted 37 skates and rays in a single night's haul—mostly Cowtalls with their queer caudal processes like the tail not of a cow but of a heraldic lion; and a few mighty, vividly-marked Eagle Rays and Sting Rays.

They used to auction these fish on the spot; and you would see dealers cycling away each with a great ray draped over his luggage-carrier so large that the sides of their flabby discs hung like panniers on either side of the wheel,

their tails (if these had not already been cut off) dragging behind in the dust.

Of sharks on the other hand, my most vivid memories are childhood ones of Pt. Pedro market where the heavy carcasses used to be laid on the ground under Baldeus' tree—graceful Black Sharks, hideous Hammer-heads, long-tailed Threshers, and often half-a-dozen other species.

But the biggest shark-thrill I have ever had was at Kalkudah when a quite small vallam pulled in near the old ferry landing all-but-full of just one shark. It was no giant as sharks go—about ten feet—but it was different from and more impressive than any other shark I had seen. Other sharks are slim, this was still streamlined but deep-bellied and incredibly powerful-looking, like a cargo-carrying 'plane.

"*Pulli chura*"! said the two fishermen in answer to my obvious interest.

"*Koti mora*"! said a Sinhalese fisherman standing by.

Then I knew why the sight had so impressed me. This was the pirate of the sea—the Tiger Shark, called in three languages by the name of the fiercest predator they know.

Fossil-Crabs of Kuchchaveli

By S. V. O. SOMANADER
Daily News, 24.10.59

A FRIEND of mine, now working as a judicial officer in the Trincomalee District, sent me the other day a specimen of the Fossil-Crab picked in the jungles off Kuchchaveli, 22 miles north of Trincomalee. It has since been added to my precious collection in my "curio-box", which contains not only various jungle "trophy" but many other out-of-the-way souvenirs, not excluding such interesting things as ambergris, gipsy charms and remedies, curious shells and so forth.

My friend states that these "crab-stones" are not so easy to get, because people from other

parts of Ceylon—and even from India—go to the spot to procure them because of their great medicinal value.

Fossilised crabs from Kuchchaveli are fairly well-known, but it is a pity that very little has been written about them. And it is strange that almost all the known specimens come from the Kuchchaveli area.

What causes the fossilisation seems to be an intriguing problem. Some of the "locals" around Trincomalee think that the petrification is due to a kind of fluid which oozes out of a crevice in "Vallatu-malai", and, by this

means, not only crabs, but other marine creatures like fish, prawns and lobsters, which live in the Matti-aar, become solidified, showing their size and shape even in their hardened and clay-coated condition. To add to the mystery legend has it that even wild animals, like the sambhur and spotted deer—not to mention a cobra—have been found buried in this fossilised state.

Speaking purely as a layman subject to correction, I personally think that the petrification is due to some special chemical action of sea-water. But, perhaps, the Government mineralogist, or one of our marine biologists, may be able to throw some light on this mysterious phenomenon.

Writing a note in 1905 on some post-tertiary mollusca from Ceylon R. B. Newton states, that "A recent marine clay is exposed near Nachchiarmalai on the Matti-aru (off Kuchchaveli), about $1\frac{1}{2}$ miles from the coast, at about sea-level. The section shows about 9 feet of alluvium resting on the clay-bed which is about $2\frac{1}{2}$ feet thick, the lower part being under water. The bed is full of marine shells, and contains also concretionary nodules of shells, serpulæ and crab remains. All these also occur, commonly washed out and scattered, over the sand-banks of the Matti-aru".

Among these, the fossil-crab which is commonly picked up is the "medicine" crab (*Macrotermus latreillei*—Desmarest), so called because it is used medicinally. It is really the medicine-crab of the Chinese pharmacopæia, for it has been found also with the post-tertiary clays of Southern China.

This reference to the medicine-crab in the Chinese pharmacopæia reminds one of some illustrations of a Chinese "Native Doctor" shop in Shanghai, which appeared in an old issue of "Life", the well-known American Magazine. The "doctor's" shop reminds one of a Natural History Museum, as it is full of the bones of crabs, tigers, gorillas, ducks and

so forth. The Chinese prepare a wine called "Tiger-bone wine", which is highly prized. This they do by allowing the bones to ferment. Similarly with the crab and the other creatures. The Chinese believe that the strength of the animals can be absorbed in the medicine by this process.

With regard to the origin and location of the fossil-crabs, it is interesting to note that the Director of the Colombo Museum (in his reply to my inquiry made about 15 years ago) kindly sent me two extracts of the notes he had published on them. The first taken from the Colombo Museum Administration Report of 1937.

"The sub-fossil crabs were collected from the seven sand-banks of the Salapai-aar, westward along the Kal-aru and Matti-aru, about one to two miles from the sea. It is possible that these are sub-recent lagoon deposits, but the presence of what appear to be decayed pieces of coral in the bluish stratum near the fossil layer suggests a more marine origin."

Matti-aru is 3 miles away in the jungle towards the west of Salapai-aru, which is 19 miles north of Trincomalee. And it is said that the rock locally called "Nachchiya-Vellatu-Malai" through which the Matti-aru passes, "is in the shape of two huge, round granite-slabs placed one upon another". It is here that the "crab-stones" are chiefly found, especially after the heavy rains in October and November though there is no specific season or month in the year when such petrified specimens are more or less exposed to the surface to be picked up the more easily.

But be that as it may the fossil-crab is much prized as a remedy for kidney troubles. The treatment in this instance, is by grinding a small part of the crab in milk, and swallowing the mixture. It is also reputed to be a specific for malaria, indigestion and other ailments. In this case the crab is left overnight in a tumbler of water which is drunk early in the morning.

The Dugong

By C. E. NORRIS, F.Z.S., B.M.O.U.

THE DISTRIBUTION OF THE DUGONG IN CEYLON

THE Dugong, like the Manatee of the tropical shores of the Western hemisphere, belongs to the order of mammals known as *Sirenia*.

Their approximate distribution has been recorded from seas off Portuguese East Africa, Madagascar, Mafia Island (off Tanganyika), Kenya, Red Sea, Malabar Coast, India, Ceylon, Andaman Islands, Mergui Archipelago, Liukiu Isles, Formosa, Malaysian Sea, Philippine Isles, Northern Australia.

Unfortunately, the species has now been exterminated from many of these places.

Commercial exploitation, especially in Australia in the 19th century, when its oil was much sought after for medicinal purposes, led to a drastic reduction in its numbers. The same may be said in regard to the Red Sea and Arabian Sea when the hide was favoured for the making of sandals, Richard Carrington, in his book "Elephants", states on page 90, that when visiting the Egyptian Marine Biological Station at "Al Ghardaqua" on the Red Sea in 1955, he was informed dugongs were once commonly seen, but not a single specimen had been sighted for over two years.

Off the coast of Ceylon, they were said, formerly, to be found in large herds of hundreds

wherever eel-grass occurs, but they have been keenly hunted for their flesh and valuable oil drastically reducing their numbers.

Literature on the dugong is very scanty, almost all of it being concerned with their anatomy, making research somewhat awkward and difficult.

Many of the following facts have been gathered from literature in the library of the Zoological Society in London.

BREEDING.—The gestation period is a long one but, I can obtain no specific period. The manatee has a gestation period of approximately 152 days which is probably a good guide for the dugong.

One calf is usually born at a time, although, twins have been recorded but are considered as uncommon.

In Australian waters the young are born between March and June. I have obtained a report in respect of a single female captured at Puttalam which was carrying a single young in September, 1957. There is no mention, however, as to how advanced the foetus was. The breeding season would appear to be extended in Ceylon waters and not confined to a set season as may be assumed from the following records:—

Month Captured	Under 4'.0" in length	Over 4'.0" and under 5'.0"	Over 5'.0" and under 6'.0"	6'.7"	Over 7'.0"	Total all sizes
January						
February		2	4	1	2	9
March				3		3
April					1	1
May	3				2	5
June						
July		4	3	2		6
August		5	5	1	1	12
September		3	2		5	10
October		6	9	9	26	50
November				3	1	4
December		1	1	1	3	6
• TOTAL ..	3	18	24	20	41	106

Mr. C. Ludekins, Government Agent—Mannar, has informed me, on information supplied by his headmen, that females give birth as follows :—

Station	Month in which birth recorded
VELLANKULAM	April and May
VANKALAI	July and August
ILUPPAIKADAVAI	September
VIDATTALTIVU	September and October
TALAIMANNAR	August

It is recorded there is a very high mortality rate in the first few months of the calves' existence. A survival figure of 1 in 5 has been suggested up to the age of 4 months. So, the number of calves reaching maturity must be small.

The rate of growth is rapid at first, possibly 6 feet in the first year but, slower after that. The young stay with the mother for at least a year and are probably still being suckled for this time. They probably leave her when she is pregnant again.

SEX RATIOS AND SIZE

From captures in Ceylon waters, the proportion of the sexes appear equal in their numbers.

Captures between July, 1957, and December, 1958:

Males	Females	Sex not recorded	Total
44	41	21	106

It is apparent females attain a greater size than males, as an average of 14 females, all over the length of 6 feet is :—

Weight 379 lbs.; length 8'.8" (the largest recorded measured 12'.0" long, weighing 740 lbs.; this one was gravid which may account for this weight). The average of 19 males, all over the length of 6 feet is :—

Weight 321 lbs.; length 7'.4" (the longest recorded measured 9'.0" long, weighing 420 lbs.)

CAPTURES IN CEYLON WATERS

The following two schedules illustrate the recorded captures from July, 1957 to June, 1959. Schedule I, was obtained from Mr. C. Ludekens, Government Agent, Mannar and schedule II, from the Department of Fisheries of records taken by the Department's inspectors.

SCHEDULE I

	Jan. 1958	Feb. 1958	March 1958	April 1958	May 1958	June 1958	July 1958	Aug. 1958	Sept. 1958	Oct. 1958	Nov. 1958	Dec. 1958	Jan. 1959	Feb. 1959	March 1959	April 1959	May 1959	June 1959		
V.H. Vellankulam	..																			
(25 Nos. from September, 1958 to April, 1959)																				
V.H. Vankalai	..	2	12	26	30	1	—	25	—	—	—	3	1	3	15	25	15	3	2	
V.H. Iluppaikadavai	..	—	—	—	—	—	3	18	3	1	—	—	—	—	—	—	—	—	—	
V.H. Vidattaltivu	..	—	—	1	—	—	1	1	1	—	—	—	1	—	—	1	—	—	—	
V.H. Marichukaddi	..	3	4	—	1	2	—	6	3	—	4	3	2	—	4	2	—	—	—	
V.H. Silavathurai	..																			
V.H. Talaimannar	..	—	—	—	—	—	4	3	1	—	—	—	—	—	2	2	—	—	—	
		5	16	27	31	3	4	54	10	2	4	6	3	4	19	29	18	3	2	= 240
																				25
																				265

SCHEDULE II

	July 1957	Aug. 1957	Sept. 1957	Oct. 1957	Nov. 1957	Dec. 1957	Jan. 1958	Feb. 1958	March 1958	April 1958	May 1958	June 1958	July 1958	Aug. 1958	Sept. 1958	Oct. 1958	Nov. 1958	Dec. 1958	Total
ACHCHANKULA ...	6	6	3			2													17
MUNAMPIDDY ...		1			1														2
PUTTALAM ...			2																2
IRANATIVU ...		5	5	39				1								6			56
ILLUPALADAI ...					1														1
MANDATIVU ...						1			1		1								3
KARAIGOOR ...						1			2		1								4
TALAIMANNAR ...								1		1									2
SILAVATURAI ...								1									2		3
KANKALAI ...								4											4
KOVILMUNAI ...								1											1
KARAITIVU ...								1										2	3
SERAKULI ...											2								2
ILLUPANDUWA ...											1								1
PESALAI ...																5			5
	6	12	10	39	2	4		9	3	1	5					11	2	2	106

VALUE OF CAPTURES

In the records obtained from the Department of Fisheries it has been shown that 45 specimens, weighing a total of 12,743 lbs. fetched Rs. 11,165/-; an average of Rs. 1/14 per pound.

The fishing appears to be carried out with the use of Madal nets and the following records show the numbers captured in single, individual hauls :—

	Number	Weight	Value	Place
1.	5	1,508 lbs.	Rs. 1,315	Iranativu
2.	12	3,385 "	" 2,975	"
3.	2	545 "	" 490	"
4.	11	3,295 "	" 3,035	"
5.	7	1,460 "	" 1,280	"
6.	4	990 "	" 850	"

From the foregoing it will be realised fishing

for dugong can be a profitable enterprise which may prove difficult to control.

Mr. C. Ludekens informs me that dugong meat is available during the June/July festival at Madu priced at Rs. 1/50 per pound.

PROTECTIVE CONTROL

The Curator of the Coryndon Museum, Nairobi, Kenya, informs me that owing to the study of the dugong's habits and behaviour being so difficult and so little known about them, they are given complete protection off the coast of Kenya, except under very special licence granted for exceptional purposes. In spite of this a certain number get caught in fisherman's nets in river estuaries and in the sea beyond the estuaries and are drowned, but there are no deliberate catchings allowed.

At present there is no restriction or control on the catching of dugongs in Ceylon waters.

I foresee certain difficulties in protecting this interesting animal (1) as if a size limit was to be imposed, this would not be practical as it is very likely the animal would be dead before it could be released from the net. The dugong is an air breather, so can easily be drowned when it becomes tangled in the meshes of a net. (2) If a close season is declared and the sale of dugong meat prohibited during this season, there is a possibility of a number of them becoming entangled in nets unintentionally. Are these to be thrown away and discarded, merely because they cannot be sold? If they can be sold, then abuse will creep in.

On the data, so far obtained it is difficult to co-relate the breeding season with a period of control owing to the apparent prolonged breeding period.

It will be quite useless pressing for a regulation to be passed that cannot be enforced and the mere passing of a regulation will not suffice. Full co-operation will have to be obtained from

the Fisheries Department Officials, but, at present they are not able to help very much for the want of launches and Landrovers with the necessary staff.

If the dynamiting of fish and dugongs cannot be controlled, there is little hope for the control of the catching of dugongs. It is of paramount importance Government makes available a greater preventive staff and equipment; otherwise not only the dugong but also the resources of edible fish in the waters around the coast of Ceylon will be destroyed in the near future.

The only solution, as I see it, is for certain areas favoured by the dugong to be closed for fishing for stipulated periods when *no* fishing of any kind will be allowed in such areas. This course of action would naturally receive considerable opposition from the fishing community.

In actual fact this suggestion should not affect the fishing community as it would only affect the shallow waters in which dugongs feed and would not apply to the deeper waters which form the main fishing areas.

From the two schedules it will be seen the heaviest catches are obtained as follows:—

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.		
1957	..							12	10	39	2	4		
1958	..	5	25	30	32	8	4	54	10	2	15	8	5	
1959	..	4	19	29	18	3	2	6						
		9	44	59	50	11	6	60	22	12	54	10	9	=436*

*Not including 25 caught at Vellankulam between September, 1958 to April, 1959).

I am unable to suggest in which months this control should be enforced owing to the lack of definite data being available.

SUMMARY

The distribution range of the dugong stretches from the East Coast of Africa to Northern Australia.

Extermination has been completed in many of its former haunts through commercial exploitation.

It is a slow breeder, probably only producing a single calf each year. The breeding season in Ceylon waters would appear prolonged with the majority taking place during the South-west Monsoon, *i.e.* May to October. (This is pure conjecture and not supported by definite evidence.)

Sex ratios appear fairly equal from reports in respect of 85 specimens captured.

The exploitation in Ceylon waters appears heavy with a good financial return, 371 individuals are recorded as having been captured

between July, 1957 to June, 1959, a period of 23 months. This is an average of 16 per month. On the ratio of females to males this would represent approximately 185 females. Assuming 50% of these were potential breeders, this would mean there is a potential that 93 calves would be born, but if the mortality rate is accepted at 1 in 5 in the first four months of their existence, then only 19 calves would reach maturity. This illustrates the slow reproduction rates of the species, of the 371 specimens captured in, say, 2 years. Their potential reproduction rate would be 19 young reaching maturity, which means for every 1 mature calf 20 adults are killed.

It is doubtful if this rate can be maintained for much longer without serious results to the species. It is, of course, impossible to express the percentage of deaths over births on the total population as there is no way of knowing what this figure is likely to be.

It will not be easy to legislate for protective control measures on capturing. The only suggestion I can put forward is that *all* fishing, in certain areas favoured by the dugong, be prohibited for a stipulated period each year. The only solution to which areas this should apply, and for what season this is to be declared rests on more research work being carried out on the breeding season and areas chosen.

DUGONGS—A ZOOLOGICAL ROMANCE

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

(From a broadcast talk in the third programme of Radio Ceylon on October 11th, 1951)

ARTHUR Mee's great legacy to children—The Children's Encyclopaedia—asks this fascinating question: "What was the song the sirens sang?" The answer is also given, and that is as fascinating as the question: "It was, if anything, a huff and a puff, a snort and a grunt, which never charmed man to death." We now know what those sirens were, whose dulcet singing was supposed to lure mariners to destruction upon sea-washed rocks. They were the mermaids of whom poets have sung sweet anthems. Thanks to men of science, the sirens and mermaids, with all their thousand legends, were what we now call sea-cows, manatees and dugongs, as innocent, says the Children's Encyclopaedia, as they are ugly, and utterly unromantic.

Manatees and dugongs are whale-like mammals, not fish. They are members of the mammalian order Sirenia, so named after the legendary sirens. Whales and dolphins, on the other hand, belong to the mammalian order Cetacea. The Sirenia are regarded by zoologists as being more closely related to herbivorous land mammals like the elephant, than to whales and dolphins.

They themselves are herbivorous creatures whose ancestors must have been terrestrial. Of the Sirenia, a sea-cow called the Northern sea-cow or Steller's sea-cow, an inhabitant of the cold regions of the Behring Sea, became extinct within the last two centuries. Manatees are found on both sides of the Atlantic Ocean and are known to inhabit estuaries and large rivers as well. The dugong, however, of which, according to the best zoological opinion, there is only one species called *Dugong dugong*, inhabits the Red Sea, Indian Ocean, parts of the Bay of Bengal and Australian Waters. They never live in open sea, but are found near the shore in shallow seas, bays and lagoons.

We are specially concerned with the dugong, because it is one of the most fascinating, even lovable, creatures of parts of the coast of Ceylon. The name "dugong" comes from the Malayan word for this animal, namely "duyong". It is popularly known as the sea-pig. The Sinhalese word for it is *Muda Ura* and the Tamils and Moors call it *Kadel Pandi* or *Auuriya*.

It is interesting to know how the dugong inspired the mermaid story. Dugongs and

manatees produce only one baby at birth. This baby is tended by its parent with almost human care. It is more than a foot long. When suckling their young, the females raise their heads and breasts above the water and exhibit the young clinging to them and partially supported by their flippers. There can be little doubt but that this habit gave rise to the legendary mermaid. Sir Emerson Tennent, in his *Natural History of Ceylon* gives a description in which he says: "The rude approach to the human outline observed in the shape of the head of this creature (that is, of the baby dugong) and the attitude of the mother when suckling her young, clasping it to her breast with one flipper, while swimming with the other, holding the heads of both above the water; and when disturbed, suddenly diving and displaying her fish-like tail—these, together with her habitual demonstrations of strong maternal affection, probably gave rise to the fable of the mermaid; and thus the earliest invention of mythical physiology may be traced to the Arab seamen and the Greeks, who had watched the movements of the dugong in the waters of Mannar. Megasthenes records the existence of a creature in the ocean near Taprobane (*i.e.* Ceylon), with the aspect of a woman; and Aelian, adapting and enlarging upon his information, peoples the seas of Ceylon with fishes having the heads of lions, panthers and rams, and stranger still, cetaceans in the forms of satyrs. Statements such as these must have had their origin in the hairs which are set round the mouth of the dugong, somewhat resembling a beard, which Aelian and Megasthenes both particularise from their resemblance to the hairs of a woman." This belief in the existence of mermaids was firmly credited by the early Portuguese and Dutch voyagers to the East.

Dugongs are ugly creatures, somewhat whale-like in form. They may reach a length of well over 15 feet. The dugong's body is somewhat compressed dorso-ventrally. The fore-limbs are converted into flippers, as in whales and dolphins. All traces of hind-limbs are lost. The tail is a horizontally expanded, rudder-like organ. The

head, which is small in comparison with the body, has its summit rounded. The neck is not well defined. In fact the whole body is streamlined, and is so built as to facilitate movement in water. The eyes are relatively small, and the nostrils are double and can be opened and closed at will by means of valves. The ears are without any external conch and have minute openings. The mouth bears thick, fleshy lips upon which grow a number of bristly hairs which persist throughout life. The female has a single pair of teats placed on the breast near the flippers. The teeth consist of incisors and grinding cheek teeth which succeed each other much as in an elephant. This is in keeping with a vegetarian diet. The male has a pair of tusk-like upper incisors—another feature reminiscent of elephants.

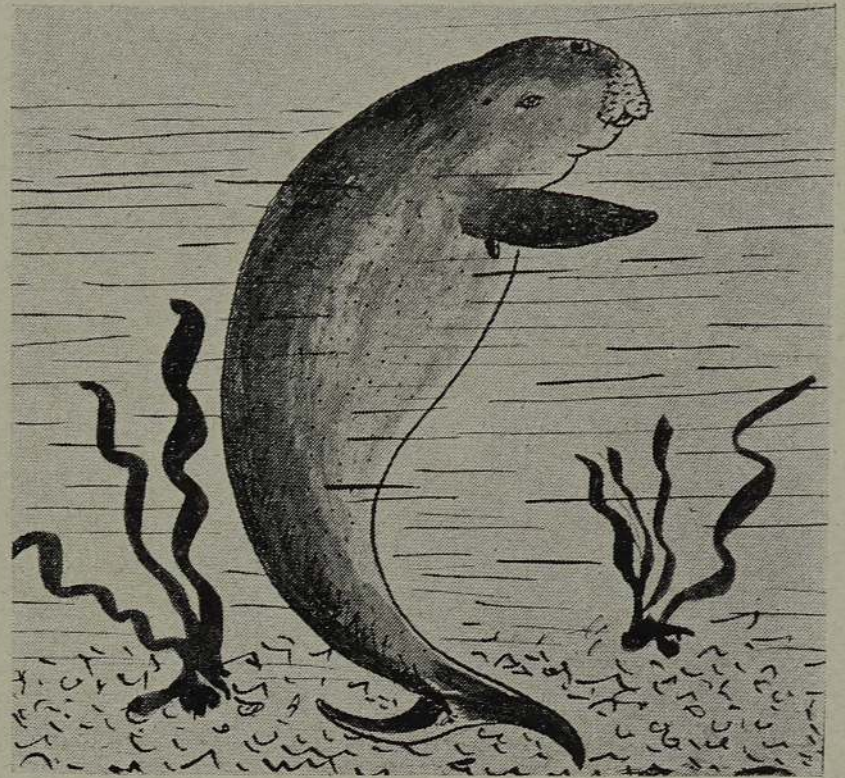
Dugongs are entirely herbivorous and browse upon sea-weed and other marine plants beneath the surface of the water in shallow seas, bays and lagoons. Anyone going by boat from Kalpitiya to the farthest island called Karaduwa, in Portugal Bay, cannot fail to notice the long-leaved marine plants that line the shores. These plants, as the inhabitants of these parts know well, form the main food of the dugong. Dugongs are slow, lazy creatures. They are quite harmless and timid. They are endowed with very little intelligence. The dugong's brain is a relatively small organ.

Dugongs have a limited geographical distribution. They are found in the Red Sea, Indian Ocean, Bay of Bengal and Australian waters. They are not uncommon in Ceylonese waters, particularly near Mannar, Kalpitiya and Puttalam. While they are often caught in these three places, they have been very rarely trapped off Colombo. They are also found around the Andaman and Nicobar islands.

Dugongs are of some economic importance. Scientifically controlled breeding and laws preventing the over-fishing of these animals may well lead to a greater economic status for these creatures in our country. Dugong fishing is practised as an industry on the Australian coast.

The clear, limpid oil obtained from these animals bears a high value. Dugongs are fished in Mannar, Puttalam and Kalpitiya, because the flesh is relished by some, especially the Moors. It is described as being of an excellent quality and flavour by those who have tried it. A dugong fetches as much as Rs. 500/- in the Puttalam area. The natives of the Torres Straits are reported by Professor Moseley to be in the habit of using dugong skulls and ribs for decorating their huts. Though these structures may not serve a similar purpose in Ceylon, there are many scientific workers and students here who are in great need of such material for purposes of study and research. Some interesting work has already been done in our country on the anatomy of the dugong and on its parasites, but a great deal more remains to be done. And if dugongs are a dying race, it is a sacred duty to ensure that our knowledge of them is made as perfect as is humanly possible.

One point more. Perhaps it is the most important point of all. There are two schools of thought on the question as to whether dugongs are fast disappearing from our waters. Some observers maintain that they are plentiful in Northern waters and that there need not be any restrictions imposed on dugong fishing. Others, more far-seeing and perhaps more prophetic, maintain that dugongs are indeed a dying race. It is high time that reliable statistics were collected as to the frequency of catches on our coasts. Such figures, made out for a number of years, will show that there is a problem, and an important problem, to tackle. Steller's sea-cow



was abundant when discovered in 1741 in the Northern Pacific, but was completely exterminated by Russian hunters 30 years later. If something is not done in time to preserve the dugong from the result of over-fishing, this creature too will share the same fate as that of Steller's sea-cow, or of that quaint bird the Dodo, or of the Great Auk or of the Passenger Pigeon, all of which have disappeared from the face of the earth, and are now known to man only as lifeless fossils in museums and books. We must preserve our mermaids. It is not at all chivalrous to assist in their extinction, merely because Science has shown them to be neither half woman nor half fish!

THE VANISHING DUGONG

By RODNEY JONKLAAS
in Sunday Observer

THE Dugong or Sea-cow is one of Nature's most fascinating marine mammals, a relative of the now-extinct Stellar's Sea-cow of Northern Europe. Off North Ceylon, in the shallow, calm weed-filled coastal areas there are still a few of these creatures which face complete extermination at the hands of netmen and harpooners. Unless steps are taken by the

Government immediately to protect them, we will no longer be able to include them in our list of fauna, and like the Hog-deer, yet another animal of Ceylon will become extinct.

Old Sailor's tales of mermaids originated with mariners' glimpses of dugongs, which in years gone by, must have been much friendlier than now. The dugong cow grasps its calf

with front flippers and suckles it at its breasts as a human would. At a distance, and with an imagination enriched by rum, no doubt the olden mariners must have seen comely women with fishes' tails. Many an inebriated young man must see even stranger things after pot-arack.

The Indian Ocean Dugong (*Halicore dugong*) ranges from the Red Sea to the East Indies but is now getting rarer than ever before. All countries which are fortunate enough to have dugongs live on their coast lines are anxious to preserve them. All countries except Ceylon, that is! In this fair land where crows and rabid dogs are protected by so-called animal-loving people, the dugongs, like the deer, are hunted ruthlessly to swell the pockets of Mudalalis and fill the bellies of pilgrims.

From round Puttalam, Mannar and Jaffna where are the eel-grass beds on which the dugong feeds, hundreds of gill-nets are laid every night and every now and then a dugong is enmeshed in one, to be promptly harpooned or caught alive and transported to the slaughter-house. The dugong is inoffensive and harmless; it does not eat fish and damage nets which is a fault of the porpoise. Its flesh is esteemed by certain classes of people who claim to be civilised and they crave it on their pilgrimages to Madhu.

When a dugong is enmeshed in the folds of a gill-net which is set in the evening for sharks and turtles and collected the next morning, it is either drowned or kept helpless till the netmen arrive. If it can struggle to the surface to breathe it lives, but the fishermen either harpoon it or take it alive, plug its nostrils with wooden plugs and let it die a slow death of suffocation. Or it is taken alive in the hot sun, its skin blistering and eyes tearing in agony, till someone offers to buy it, whereupon it is butchered without the slightest thought for its suffering. Humane butchery is not exactly a virtue of our fishermen, much less the turtle-catchers of the North; and the dugong, by far the most harmless and sensitive mammal of the sea, comes in for less consideration than a lobster.

The dugong grows to about 12 feet length and a weight of over 500 lb. A great deal of meat is therefore available and finds a ready sale. If and when the dugong is to be protected the authorities would be hard put to it to find a substitute for dugong gourmands in Ceylon.

I am reliably informed that although the Department of Wild Life would like to take over the dugong under its protection and include it in the strictly protected list, the Department of Fisheries is unwilling to release this creature from its list of creatures to be destroyed.

Personally, I feel that the Department of Wild Life would not find the protection of the dugong an easy task. We all know that framing a law is one thing but enforcing it . . . oh brother! There is enough worry for the under-staffed, poorly-financed Department of Wild Life with hundreds of poachers and wanton killers after the deer, elephants and other land fauna. Few spots in Ceylon which dugongs are found round have any Wild Life Rangers stationed even close by. To protect the dugong the Wild Life Department would need more staff, especially trained for operating in the sea (or even under the sea) to check on nets.

With the advent of nylon nets the future of the dugong, or rather its doom, is made even more sure. Often dugongs would tear or stretch nets they were enmeshed in and so breathe, or perhaps escape, but with nylon this is not so easy. I am not condemning nylon in any way; I am merely stating a fact.

Nor am I suggesting that netting should be done away with in the domain of the dugong. But I would suggest that immediate investigation be organised to devise nets and methods of netting that would save the dugongs but catch the fishes and turtles. And what more suitable department to protect the dugong than the Fisheries? If the various officers now stationed to a very great degree in areas where dugongs are brought are empowered to release them, or arrest fishermen who possess them or their flesh it would be a decisive step in the battle to save this fine creature.

With the increasing encouragement in oceanic mechanised fishing more consideration should be given the protection for posterity of the fauna of coastal waters. Not only the dugong but also other fishes and even turtles need consideration. The rare and attractive Leathery Turtle is deserving of strict preservation and not a few species of fishes unique to our seas, are on the "rare" list.

Photographs of two tame dugongs were taken by me in January at the Fisheries Marine Research Station at Mandapam Camp in India. Captured alive by net, they were carefully tended and fed by Mr. Chellapah, who is in charge of the Aquarium there. Now they are tame and "Rajah" and "Ranee" are the fond pets of the Research Officers of the Station. Mr. Chellapah's diary is an eloquent history of these rare mammals in captivity and provide hitherto unknown facts about them. The Indian Government is very keen on learning more about the dugong and already steps are being taken to protect them.

Keeping a dugong is easy; all it wants is shallow, warm sea-water and plenty of eel-grass. To construct a dugong farm in, say, Kalpitiya

would be a simple task, and a worthwhile one. A suitable area of the sea or lagoon adjacent to land could be fenced in with strong wooden piles or some non-corrosive metal and used as an aquatic corral in which to keep these creatures. There is still a great deal to be learnt about them and it may be, that in the future, a dugong farm providing specimens for sale and introduction to other parts of the world will be a paying proposition.

An elephant is worth several thousand dollars in America today; a live dugong is worth much more. With more and more large aquariums and oceanariums being made the demand for tame dugongs would be considerable. In fact, I have heard of a kindly Mudalali somewhere off Kalpitiya who had purchased a live dugong and was keeping it and feeding it in a corral of his own construction. It seems paradoxical that such a person would make so creditable an attempt to preserve this animal whereas the Government Department concerned could scarcely care less.

When are we going to have a conservation programme for our aquatic fauna and flora?

A SANCTUARY FOR DUGONGS

By R. L. SPITTEL

JUST as the dugongs are derived from certain primitive elephants of the Tertiary Age, who, discovering a vast food supply in the rich aquatic vegetation of lakes and rivers, eventually forsook the land and colonised the shallow coastal waters where their bodies in the course of ages became fish-like—so it is with the submarine pastures, on which dugongs and turtles feed.

These grass meadows belong to the highest group of plants, the seed plants which originated on the land, and so differ from the floating algae and sea weeds, earth's oldest plants that have always belonged to the water—where all life had its origin. The sea grasses flower and

shed their pollen under water, their seeds drift with the tide and take root in the sand and coral debris, and so secure the offshore sands against currents, as the dune grasses on land preserve the dry sand against the wind.

It would be difficult, indeed impossible, to enforce the law, if the dugong is declared a protected species throughout the Island.

It would be much preferable to establish a sanctuary for them. Nowhere better can this be done than in the Gulf of Mannar—prolific with pearl oyster beds 10 to 15 miles off the coast: and rich with the wonderful living coral reefs of Arippu and Silavaturai only a mile or two off-shore—a skin diver's paradise.

What a marvellous marine reserve the Gulf would make, with fishing, except for dugongs, permissible.

This dugong sanctuary should extend south to the shallow sea of Portugal Bay which abuts on the Wilpattu Reserve coast line. It would considerably enhance the attractiveness of Wilpattu: especially if, as Mr. Rodney Jonklaas suggests, some specimens of this rare mammal, hardly ever seen by the general public, are con-

fined in an aquatic corral made by fencing off with strong wooden or non-corrosive metal piles, a portion of the shallow sea luxuriant with eel-grass—also called dugong—or turtle-grass.

A similar corral might be built at Silavaturai or Marichchukkaddi, the centres for the pearl fishery; and why not an experimental station for culture pearls as well.

Is this “a vision or a waking dream”?

Better Take a Single Record Fish than a Lot of Small Ones

Editorial in Reefcombers' News Letter

DO you know what “hacked” means? The verb sometimes used as a noun was coined by Rupert Giles, a former Reefcomber. It means to devastate, wipe clean, totally destroy. It would be a wonderful thing to be able to say that no Ceylon reefcombers are “hackers”. But of course, this is impossible. We all have our favourite spots on the Island where we enjoy swimming and taking everything we can get, but in line with the President's example we should develop a keener sense or concern for conservation. Everyone should pay a little closer attention to the rules and regulations outlined in the Reefcombers' Book. Do not take anything under the official weight or in quantities larger than you can use. We all fancy ourselves as amateurs, but when you sell your take, you compromise your amateur status.

“Hackers” have been working during the past 12 months all-round the Island. Some of the hacked places are Swamy rocks, both the south-west and north-east breakwaters, Colombo harbour, off Hikkaduwa and the reef just north of Hikkaduwa.

It is the President's hope that we will all do some soul-searching and try to remember the rules of the club and set a good example to the many new keen divers in Ceylon.

The purpose of keeping records of spearfishing by the club in Ceylon and in the world is primarily concerned with conservation. Record-hunting is not a fad; it is a sane sporting method of killing fewer, larger and more worthwhile fish. The North Mediterranean is virtually hacked because in the early days of spearfishing the divers killed everything they saw; if they had tried for record weights and not record numbers of fish taken; this would not have happened so suddenly.

The reefcombers pride themselves on being sportsmen and conservationists. Our club does not recognise records for fishes under 10 lb. and those debarred from our contests and classed as “protected” in our conservation by-laws.

Multiple bag records are not encouraged except in the case of game-fishes. Nor is it possible to establish a foolproof system whereby these may be judged. A spearfisherman with a boat can reap a rich harvest in good waters, someone less fortunate might be handicapped for lack of a spot to put his fish or a gunwale to rest on. Better take a single record fish than a lot of small ones.

In Search of Shells

By RODNEY JONKLAAS
in Sunday Times

EVER since my mother placed an empty chank against my infant ear and bade me listen to the sound of the sea, I have had a fondness for seashells. Now, many years later, I am literally surrounded by a huge collection of them.

It was when I started skin-diving in the sea more than 15 years ago, that I took to shell-collecting as a hobby. I found that as a diver I had a distinct advantage over other collectors, and I did. But on and off I gave away or exchanged my collections for objects more artificial until in 1957 I visited the Maldives and was bowled head-over-heels by the shell-collecting bug.

Since then I hunted shells all over Ceylon (and in India, too, on a purely shell-hunting excursion). I have got a small library of shell-books, many more are on their way; I've exchanged shell correspondence with several enthusiasts in America and Australia and bored many of my friends here in Ceylon with shell-talk.

But my greatest disappointment has been the appalling lack of shell-collectors in Ceylon. Hundreds of Ceylonese collect man-made pieces of paper called postage stamps, match-box labels and other artificial baubles, but less than a handful go in for Nature's porcelain sculptures of the sea, in thousands of fascinating sizes, shapes and colours. I find the Department of Fisheries Museum singularly devoid of molluscs except for a depressing heap of empty pearl-oyster and window-pane oyster shells, and latterly a heap of sun-and-moon scallops dredged off Mullaitivu. I find the Colombo National Museum sporting an ancient showcase with two or three dozen faded and useless land-snail shells, most of them misnamed. I see a professional shell exporter's establishment in

Negombo full to the rafters with chanks and nothing but chanks.

Sea shells of tropical shores and seas, typified by Ceylon's coastline, are in themselves treasures of the world. Long before coins, notes, bank-drafts, travellers' cheques came into existence, sea shells did the job and far less complicatedly too. Cowries from tropical coasts still serve as currency in the wilder parts of Africa and the early Indians "wampum" consisted of sea-shells. Nowadays, people of taste and knowledge are quite willing to pay 3,000 dollars U. S. for a single specimen of the glory-of-the-sea cone shells. Closer still, you can get at least Rs. 2,000 for a common chank with a left-handed twist to its shell . . . if you can find one!

I may be wrong in stating that a mere "handful" of people in Ceylon collect sea-shells seriously. Perhaps there are over a hundred. But how many of them collect them the proper way? As far as I know, about 10. Collecting sea-shells does not imply the aimless beach-combing for battered and worn-out shells one finds washed up on our shores. This way you get perhaps one in a thousand worth having.

To really collect them you want to know their habits and locations and try to collect them alive, by wading in shallow pools, digging in the mud at low-tide, hunting with a torch at night on surf-washing rocks, and diving for them with a face-mask. This is a pursuit as rewarding as butterfly-hunting on land, far less strenuous, with much less delicate objects to hunt.

You get very few shells washed up on shore dead, which are worth keeping for a good collection. But most of them can only be collected this way, and the perfect specimen

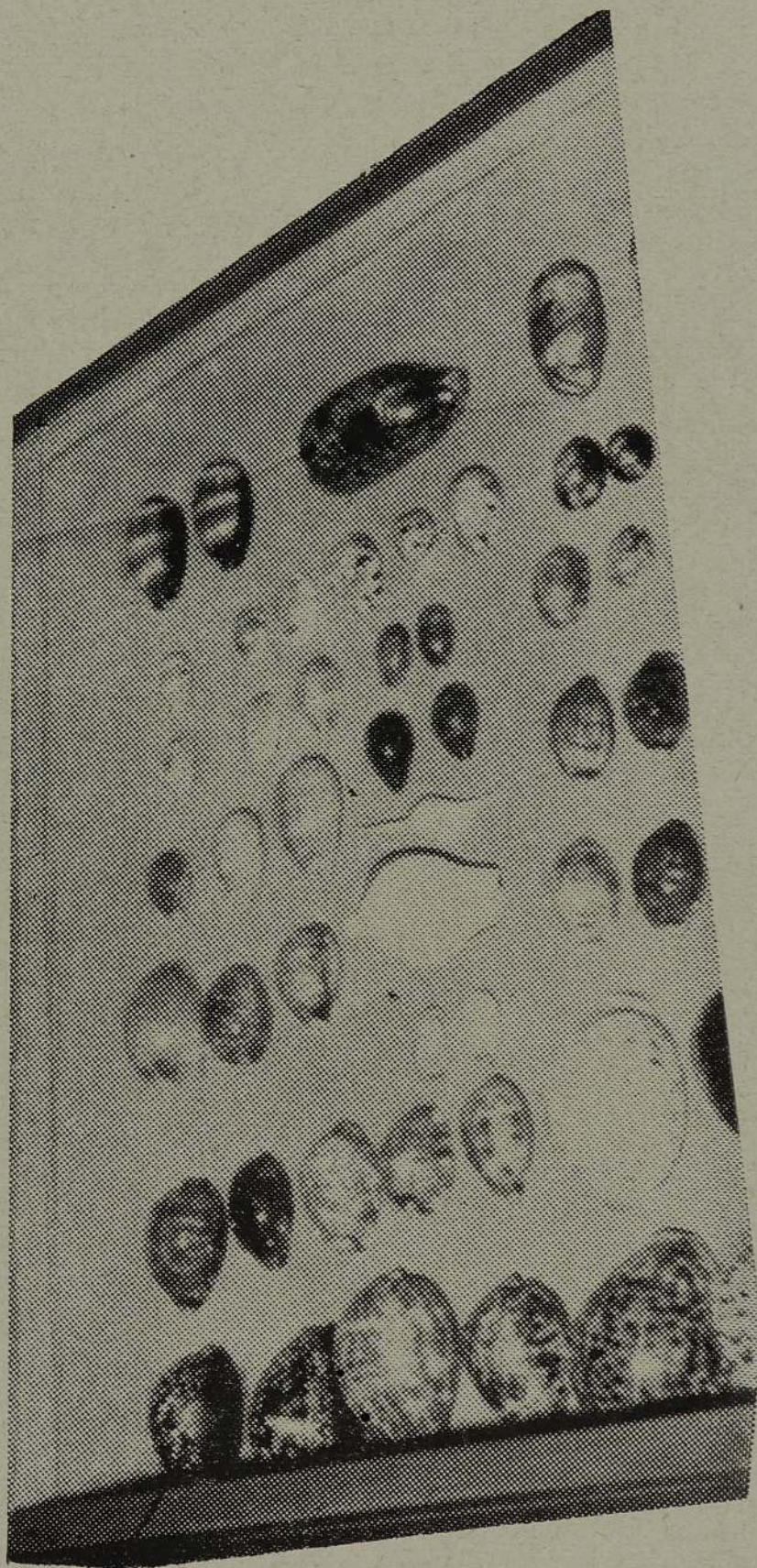
of Pearly Nautilus which is so rare is a really worthwhile find on a lonely beach. Similarly, the rarer shell of the female Argonaut which in its perfect state is worth at least Rs. 200. Many of the pretty bivalve Wing and Butterfly-shells can only be collected dead on the beaches, together with the worm-like Spirula, far-related to the octopus, and the purple-snail or Janthina which carries with it a floating mass of sticky froth.

In tide-pools and on rocks you can get cowries, cones, limpets, mussels, oysters, clams and all manner of shell types. In shallow sandy beaches you can dig up many kinds of pretty bivalves and olive-shells. Dive in quite shallow calm coastal waters even off Colombo and you come up with an amazing variety of shells ranging from the chank to minute money-cowries found on the reef.

Now a live shell does not remain so for an indefinite period bereft of its natural requirements. So it dies sooner or later and with its death comes a remarkably potent odour to which the former habitues of pearl-fishing camps in Marichchukadai have become well inured. You can speedily and humanely kill the living organism within a shell by boiling it for a few seconds only. Then it is up to you to gouge out the insides as best you can with a hooked instrument. Being quite lazy, I leave this task to an obliging nest of ants in my garden which over the past few months have become connoisseurs of molluscan gastronomy. There is a smell of course, but one has to put up with this sort of thing and it is not nearly as bad as some parts of the Pettah, so why grumble?

Once the ants and flies have finished their part of the job, it is up to you to wash off any other matter which may adhere to the shell, using plenty of soap of course. Some shells like cowries and olives are obligingly clean and polished-looking straightaway and can go into your collection with nothing more than a brisk polishing with a clean dry cloth. Others are more stubborn. The beautiful colours are revealed only by removal of one or more outer

coverings by use of hydrochloric acid or strong caustic soda. The cone-shells respond to strong caustic soda and a final swift dousing for a second or two in acid, then a wash in cold water



A display of Ceylon Shells •

and drying with soft cloth. Murex shells require plenty of scrubbing with dilute acid and suitable instruments to remove the barnacles and other marine growths on them. An old tooth-brush with dilute acid works wonders on most of these stubborn types. You can leave a shell for days in caustic soda, but with acid you must work swiftly and it takes practice to get perfect results. Experiment with old or damaged shells first and then work on sound ones.

When your shells are clean and ready, storing or displaying them is a pleasant pastime. Properly displayed shells are more than unusual (and often, unique) ornaments for a home. Leaving aside the monstrous and hideous objects painted gaudily over and fashioned into grotesque figures and flowers, shells are in themselves objects of exquisite form and colour. Many a home is proud of its lovely shell paper-weights and door-stops, but only common and cheap shells of larger size are fit for such usage. Rarer and more delicate ones like the Chinese Pagoda-shells, Murex with spines and pretty scallops are too expensive and delicate to be exposed. Putting them in glass cases, or on shelves, or even framing them in glass-fronted boxes is what should be done.

Most of my collection and my choicest shells reside in large glass-fronted boxes painted blue inside. The shells are stuck on as desired with a strong adhesive. These make superb displays and are admired by everyone, yet they cost a trifle and give me hours of enjoyment just gazing at them and trying to remember where I found or purchased them.

The larger shells are wonderful table-top ornaments. Some, like the scorpion-shells, are perfect ash-trays and being cheap and plentiful, can easily be replaced. The Abalone from Japan and the United States has a gorgeous pearly interior and is almost opal-like, but in its own country is so common as to be found in huge mountains beside canning plants which use the meat inside for chowder.

In India, where at Rameswaram is probably the greatest concentration of fancy shell-shops

in that country, apart from the countless shells displayed for sale, a good many attractive and useful objects are sold which are fashioned around shells. Melon or Beggar's Bowl shells and also large white Murex and Scorpion shells make fine lampshades, and table-lamps made with them cost less than Rs. 15.00 each. Thousands of small shells are fashioned into necklaces of many patterns. Many more cowries and chanks are cameoed or decorated on expertly with acid. But I was thankful not to see grotesque dolls and flowers made with rubbishy shells painted over in poor taste as I often see in Ceylon.

The serious shell-collector likes to name and label his or her shells accurately. Many books are on the market and can be ordered from India, Australia and America but the best I have seen so far are from Japan. Kira's book of shells from Japan and adjoining lands is a masterpiece and even better than Maruzen's standard work on Japanese shells. The best American work is Webb's *Handbook for Shell Collectors* which gives fascinating accounts of famous shells and collections, and useful tips on where to find them, and how to clean them.

The shell-collector in Ceylon need not worry about what he thinks are purely Ceylon shells: those molluscs found in our waters are, for the most part, distributed over a great part of the tropical seas in the world and are featured in most books. The names I have employed in this article are popular coined ones; the most accurate names are those in Latin, of course.

A good few shells are peculiar to our waters and eagerly sought after by foreign collectors. A collector in Ceylon can quite easily build up a fair world-wide selection by merely exchanging his duplicates with correspondents and dealers. Like postage stamps, shells are so numerous as to compel serious collectors to specialise. Some go in for only cowries or cone-shells, others stick to bivalves and reject univalves. Eccentric collectors spend fortunes on freaks like albinos and I know at least one person who will consider no fewer than ten

perfect representative specimens of *each species* of shell for his satisfaction!

If I have converted at least one hobby-minded person to Malacogy (which means shell-collecting) my article has not been in vain. A collection

of shells properly kept and displayed brings a little touch of exoticism and a breath of the tropical seas to every person who is appreciative of the simpler things of life—which are, after all, the most lasting.

ONE WEEK AT THE MANDAPAM CAMP

By RODNEY JONKLAAS
in *Sunday Times*

BY the time you reach Mandapam Camp (where I spent a happy week lately) you feel not inclined to regard all South India as desperate-looking. Mandapam Camp always intrigued me. The buildings are clean, gracious, cool, and well shaded yet caressed by the breeze. There is plenty of good water and food is cheap. (You pay Re. 1.00 for a nice tender chicken and not more than an anna for a juicy mango out of season).

•If you are interested in the sea and the jungle as I am, and also in the ways of singularly charming, unsophisticated and disciplined people, you will like Mandapam Camp, or nearly all South India.

I visited Mandapam mainly to see for myself the Fisheries Research Station there, and also to study the much-talked-of shell trade at Kilakarai (some 35 miles away) and Rameswaram temple. I was completely fascinated and am much the richer in experience for having gone even for only a week.

The Central Marine Fisheries Research Station at Mandapam Camp is a vast, sprawling and unostentatious place yet efficient and maintained at a superb level. The officers there are all highly qualified. The standard of work and the volume of output in valuable research projects exceeded my wildest expectations.

The entire campus comprises some 35 acres and consists of laboratories, neat bungalows for living quarters, a guest-house, a small aquarium, lecture-halls, stores, museums and a first-class library. Anyone remotely interested in fishes and the fishing industry can spend weeks there

and still escape boredom. The aquarium, though small, is remarkably effective in that its inmates enjoy a great degree of longevity, something which much more ambitious public aquariums fail to achieve. Here I saw baby Caranxes (*Parau* to us Ceylonese) from $\frac{1}{2}$ to 4 lb. in weight which had grown up from the 1 inch stage. A rare Albino Hawksbill turtle shared a pond with two others of normal colour and I was astonished to learn that these 3-ft. long specimens weighing about 30 lb. each were hatched out from eggs just three years ago!

Another tank contained two fine Reticulate Moray eels and in one pond were beautiful large crabs and lobsters. Sea-water circulated throughout the day and with good food no wonder the fishes looked the picture of health and grew amazingly.

I was fortunate to be there during the zero-tide period and that night all the officers, the Director and anyone interested turned up in Palk Bay for a nocturnal collecting trip. A festive and picnic-like spirit pervaded what was in reality serious and scientific collection of specimens accomplished with some expert net work and the use of electric lights in the shore area worked off a portable generator.

I was disappointed in the shallowness and calmness of the sea, being used to the livelier, deeper waters off Ceylon. In Palk Bay you can walk a quarter-mile into the sea and yet not wet your neck. There is no safer place for non-swimmers or learners to gain confidence. The underwater scenery, seemingly drab, was

in reality a rich ground for useful sea-weeds and myriad molluscan life; a weird green world of squids and sea-snails, seaweeds and crabs. Deeper and farther out the Dugong (whose extinction is imminent in Ceylon waters) is quite common, and also the fascinating sea-horse which lives in the waving eel-grass beds.

The sea which rushes beneath the mile-long Pamban railway bridge must be a fascinating hunting-ground when the fierce kachan wind dies down. The famous "Pamban Salmon" of India is the Treadfin or *Kalava* of Ceylon and this fine food fish abounds in the area together with shark, barracudas, and groupers.

Some miles from Mandapam Camp is *Kilakarai* which you can reach by train and bus. *Kilakarai* is one of the biggest chank and sea-shell fishing centres in South India with a flourishing export business in chanks. I met the skin-divers of *Kilakarai*, burly Muslims who spoke Sinhalese eloquently, and who took me out diving with them for chanks and other shells. In a leading dealer's store I spent two fascinating days studying, identifying and purchasing rare and attractive sea-shells for my collection. The average shell-collector in Ceylon has no idea of the extent and complexity of the sea-shell industry in South India. Only a visit can convince the sceptic that it is a multi-lakh



R. Jonklaas

At a shell dealer's warehouse at *Kilakarai*. Employees of the Exporter select good specimens from a mound of five-fingered chanks.

business. In Ceylon we treasure a beautiful cowry or cone-shell; at Kilakarai you buy them by the gunny-bagful.

To a wildfowler the possibilities in South East India are tremendous. The shotgun is a rarity here, cartridges (on permit only) cost Rs. 1.50 each if you can get them, so the birds and hare are there a-plenty. You can shoot any number of Gray Partridge round Mandapam Camp and even in its boundaries. Three miles up the road you alight from a bus and see peafowl in a semi-domesticated state a few chains from the main road. I hunted with an amateur shikari there who was emphatic that he never shot at peafowl unless there were two or more close to each other so he could get at least a "double". He never shoots partridges (because they walk so fast and fly so swiftly) and when the duck are in during the North-East Monsoon he goes after them by the flock. Starved Ceylon sportsmen take note!

- My main object in visiting India was to see *Rameswaram Temple* and shop for sea-shells in the fabulous shell-booths in and near the temple. You journey to Rameswaram by rail in the company of pilgrims from all parts of India and even at Pamban junction where you change train for the last few miles there, you are accosted by eager sea-shell vendors who offer you cowries, chanks and shell-necklaces for absurdly low prices. The shell cameo industry here is a thriving one and I soon became rather fed-up of being shown cowries and chanks with "Good Luck", "Be Good", "Be Happy" and similar sayings prettily cameoed on them.

Rameswaram exceeded my wildest expectations. I revelled in the walk along picturesque bazaars and streets to the road which leads to

the famous temple. All the colour and fascination of South India blended here with a smattering of North Indian pilgrims adding noise and colour to the spectacle. The shell-shops were treasure troves of molluscan beauty.

Within the temple, amidst the lofty stone pillars and statues and in vast corridors were more shell-booths. The shrewd dealers knew a spendthrift when they saw one and were it not for my two Indian guides and mentors I might well have expended all my cash reserves on sea-shells. In the glittering and kaleidoscopic piles of beautifully-cleaned and polished shells I identified imports from the Maldives, Andamans and Africa and even the left-handed Whelk from Florida which fetched good prices here.

Apart from the shells themselves were attractive and ingenious objects made from them. There were multi-hued necklaces of many designs, paper-weights and cameoed souvenirs, lamps and lamp shades fashioned from Melo shells (Beggar's Bowls or Bailer-shells as they are commonly called). The highest prices were for the Green Snail shells expertly cleaned and polished to present a pearly lustre, Pearly Nautilus, and the famous Triton's Trumpets and Red Helmet shells from the Maldives. The prices were absurdly cheap for small cowries and cones collected round India, but amongst these my trained eyes picked out many a rarity which I got cheaply.

And I could not but help admiring the Indians, for what they achieve with so little. Doing without most of the imported luxuries we Ceylonese take for granted, the people of India are steadily winning their hard battle for self-sufficiency and eventual national prosperity.

The Sunbirds and the Crow

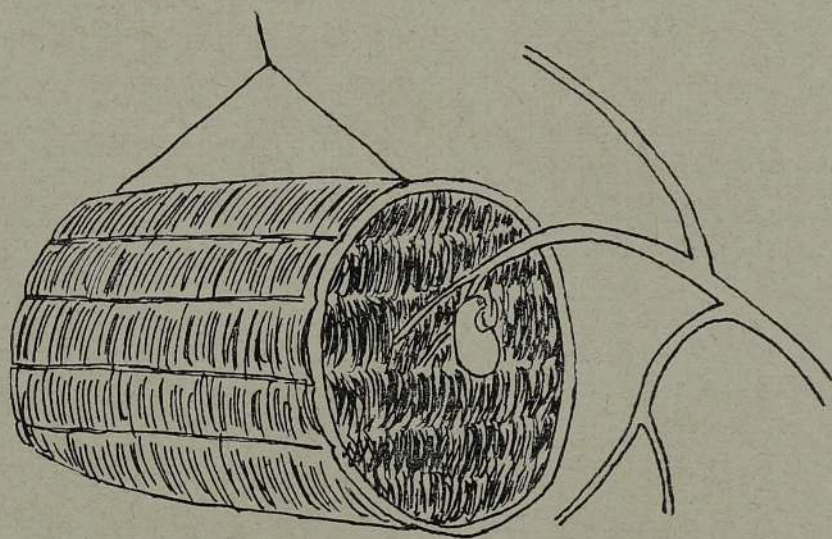
By V. M. FERNANDO

IN my article "A Sunbird's Nest in the June, 1959 issue, I wrote about a sunbird's nest that was attacked by a crow. Although I re-hung the nest in its original position with a piece of cloth the hen refused to hatch the unbroken egg. Later she abandoned it to build a new nest.

For building the new nest she selected a "sooriya" tree. But this time that merciless crow did not wait till the nest was finished. The crow destroyed the half-completed nest. After this happened I decided to do something to help the unfortunate pair of sunbirds. I hung a lamp-hook from the edge of the roof with a small piece of rope attached to the other end of the hook. My effort was rewarded for they built another nest on the rope. They were grateful for my help. I could now remove the hook from the roof, examine the nest and put it back without any damage to the nest. In this way we can encourage the birds in our gardens. This time the hen laid only one egg and hatched it. Suddenly the crow attacked the nest and carried it away with the young one. I heard pitiful cries in the distance as the crow killed the young one. Nothing could be done to save its life.

Yet the Sunbirds did not give up their attempts. They were determined, and this time they selected a small tamarind tree one foot away from a window of our house. I realised that I should do something to protect the nest from the crow. I thought of a good plan and it worked. I can recommend it to any bird-lover who wishes to protect a nest from a crow. The most important thing is to note that the various operations should not be done all at the same time. It should be a gradual process so that the birds would get used to any changes made in the proximity of the nest. Otherwise they would be frightened and may not return to the nest.

I waited till the nest was completed. I took a "Koli-Kude" (a basket used for protecting



Sunbird's nest within basket

chickens from crows). I hung it from the roof so that it lay near the nest. After the Sunbirds got used to it, I drew the nest towards the mouth of the basket. Then little by little I pushed the nest with the branch inside the basket. The sunbirds became quite used to it. The hen laid two eggs and they were hatched.

One day I saw the crow eyeing the basket curiously. I realised that the two young ones in the nest inside the basket were not quite safe. The crow might enter the basket. I thought of covering the mouth of the basket with a piece of wire-netting. I selected netting with holes big enough for the sunbirds to pass through but too small for the crow, and covered the mouth of the basket with it. I was quite happy when I found that the sunbirds flew into the basket through the wire-netting without any fear. At last the crow was defeated. The experiment I tried worked.

It was a great joy for me to see the two young ones. One evening they flew away. But often I saw them in our garden in their unending search for food. Sometimes I saw them resting for the night on a mango tree in our back-garden or under papaw leaves only six feet away from my window. This habit of resting under papaw leaves is a common

habit among the sunbirds. They perch on the portion just under the leaf where the bamboo like stem meets it. This provides a good shelter in the rainy season.

We have heard scientists speak of the survival

of the fittest. If we allow nature to take its own course without any sort of intervention there is the possibility of the weaker facing extinction. Here the wildlife enthusiast can intervene and work for their preservation.

Confound that Crow!

By R. L. BROHIER
in *Times*

GLANCING over some notes on Ornithology I came across rather a strange statement by an old-time writer to the effect that it was the Dutch who introduced crows into Ceylon. Is there any authentic evidence on record to support this theory?

I am afraid not, but the circumstances which have doubtless given rise to such speculation are sufficiently interesting to justify a postscript on the subject of the Ceylon crow.

Hugh Nevill the author of that rare journal of oriental studies in and around Ceylon which he called "The Taprobanian", says "the grey crow (*Corvus splendens*) occurs between Kalutara and Galle only at Induruwa and nowhere else, and there is no doubt it is not indigenous to the south of the Island, having been introduced by the Dutch at their various stations, as a propagator of cinnamon, the seed of which it rejects uninjured."

The one fact which emerges from this notice is that at the time Nevill wrote (1870-74) the crow was localised in a curious manner only in the areas where the Dutch had laid out cinnamon plantations, and cultivated the commodity for export—that is to say, along the western coast down to about Kalutara.

When Nevill published his note, his statement was received by many with some little reserve. However, that great authority on Ceylon Birds, captain W. G. Legg, says: "For my part, I very soon verified his statement on going to Galle, at which place, as likewise round the

whole southern seaboard, I found the bird entirely absent."

Today, right down to Galle and even in distant Hambantota you find the crow—not merely as a straggler but in great numbers and a variety of characters ranging from the "bungalow thief" to the languorous pub-crawling type—those jolly tipplers who take their fill of the fermented sap collected in the small, clay *chattie* or gourd which hangs under the bleeding coconut flowers in the colonnades of trees which flank the south-coast road.

Suppose we venture to follow up Nevill's note by turning our minds to what other writers of Dutch times have to say. The German writer J. C. Wolf, who was in Ceylon from 1749 to 1769, refers to this matter in his book, "Life and Adventures", as follows: "In this case (*i.e.* when self-sown) the crows, who are very fond of eating the red and quick-tasted fruit of the cinnamon tree, are the best gardeners. Along with the fruit they swallow the kernels, and scatter them thus undigested everywhere with their excrements and the seed shortly afterwards strikes root on this account, no one dares to shoot, or otherwise kill a crow, under a severe penalty."

Confirmation of this comes from Haafner who visited the Island in 1782. Writing of Negombo and the cinnamon plantations in his book, he says: "the ravens greatly assist in the propagation of the trees and it is therefore very strictly forbidden to shoot or kill them."

However, neither Valentine nor Baldaeus—the two recognised Dutch historians, refer to the protection by law of the crow. The latter nevertheless establishes as a fact that “crows there are by thousands, which in the noon make a wretched noise on the roofs of houses”. He all but definitely denies that the crow was protected as he goes on to say: “They are so sly and cunning, that they are not to be easily shot, except through a broken pane of glass, or through a rattaned window . . . and, if any of their comrades are lowered by a shot, it is not to be expressed what a funeral they make of it with their cawings and lamentations.”

These quaint references drawn from old-time writings serve, if at all, chiefly to account for the familiarity and audacity which the crow exhibits in its intercourse with man. They certainly fail to establish that the Dutch introduced the crow to Ceylon. As a matter of fact, both ancient Sinhalese folklore and legend contradict this for they are rich in allusion to the crow as a bird indigenous to the Island.

Even more convincing is the fact that *Nekkettas* (Soothsayers) have for long years ventured to respect the crow as a messenger of omen and a harbinger of news which may be good or evil. They call their handbook of reference to this art of divination *Kaputo Sestreve*, meaning “The science of Crows”.



What follows is a literal rendering of a few of the interpretations laid down in the handbook.

Should a crow caw opposite to you in the morning, you should resign yourself to evil fortune which will surely follow you right through the day. If in the noon there is profit, gain, or pleasure in store. In the evening the omen foretells the arrival of friends or relatives.

All manner of evil will befall you if you are destined to see a crow perched on a dead or withered stump of a tree, pecking at a morsel of food it has removed from your house.

Should a crow soil your best hat, or well pressed suit, as may well happen if you walk under a shade-tree—never worry. It is a sign of great contentment and happiness in store. But should the bird soil your knee, or your instep, the omen comes as a warning that you will not walk much longer . . . !

LITTLE FOOTSTEPS

- There scattered oft the earliest of the year,
- By hands unseen are showers of violets found ;
- The redbreast loves to build and warble there,
- And little footsteps lightly print the ground.

- *This is one of the rejected stanzas of Gray's Elegy. Its position in the poem is immediatly before the Epitaph. Byron said it was the finest stanza in the Elegy and wondered that Gray had the heart to omit it.*

MINUTES OF THE SIXTY-SIXTH ANNUAL GENERAL MEETING

HELD AT THE "80" CLUB, TORRINGTON PLACE, COLOMBO, AT 6 p.m. ON SATURDAY, 19th DECEMBER, 1959

Present.—101 members and Guests.

The following regretted their inability to attend the meeting: H.E. Sir Oliver Goonetilleke, Mr. K. Alvapillai, Permanent Secretary to the Minister of Trade and Commerce, Messrs. R. C. Scott, H. Alderson Smith, A. B. Jackson Smale, A. D. Mac Donald, V.C. Modder, S. V. O. Somanader, C. F. Dunbar Jonklaass, J. G. Reminton, G. P. Villiers and Mrs. T. W. Hoffmann.

The President, before opening the meeting, offered his condolences to Mrs. Bandaranaike, the wife of the late P.M., and asked the Meeting to rise in the customary manner as a mark of respect for the late Mr. Bandaranaike and for those members who had died in the past year.

(1) The Notice calling the meeting was read.

(2) The Minutes of the Half-yearly General Meeting held on 25th July, 1959, were duly confirmed.

(3) *Presidential Address*:—

Mr. Norris, The President, said that before making his Presidential Address to the Meeting he first of all wished to thank the President and members of the "80" Club for being so kind as to allow the Society to once again hold the Annual General Meeting in their premises, and he particularly wished to stress his appreciation of those responsible for the erection of the tarpaulin.

Mr. Norris then addressed the meeting as follows:—

• Dr. Spittel prefaced his Presidential Address at the 64th Annual General Meeting in saying, 'If by the end of the coming year our Society shall have contributed in however small a measure, towards the attainment of two main objectives, namely the better protection of our elephants and the long overdue amendments to our wild life laws, then we shall have achieved something worthy of our Society.'

I feel we may be moving along the road to achievement especially with regard to our elephants. It has become abundantly clear to me we can do nothing without finding out more about them as it is only with a greater knowledge that we can determine in what direction to take protective measures. To achieve this we must obtain the services of an expert biologist to closely examine the question and put us on the right lines. The Society, through want of funds, is quite unable to engage the services of a man of the required calibre, even if we were able to obtain assistance from some helping organisation. At the beginning of this year I became frantic with a feeling of frustration as it was obvious the Society had not got the weight or influence behind it to obtain assistance from abroad. I was determined to get something done, so started a field survey on the elephant. So far we have only been able to cover a small portion of the country, but we have collected some very useful and interesting biological data which have been prepared in the form of a preliminary report. I next approached the Hon. the Minister of Food, Commerce and Trade, under whose administration wild life has been placed, strongly advocating that the Government obtain the services of a Specialist by applying through the organisation of the Colombo Plan. Our Fisheries have been given full attention and Specialists have been provided by the Colombo Plan so, I contend, our wild life is due similar attention. I am pleased to inform you the Hon. the Minister was in full agreement with the suggestion put to him and, I am given to understand, has given instructions for the necessary action to be taken. I have also been in touch with Dr. Harold Coolidge, a Vice-President of the

International Union for the Conservation of Nature and Director of the American Committee for International Wild Life Protection. Last year in Africa, I had the good fortune of meeting Dr. Coolidge, so was able to discuss our problems personally with him. A Canadian biologist, one Dr. de Vos, is also in correspondence with us on the subject and he is working in co-operation with Dr. Coolidge and has promised to see the Administrators of the Colombo Plan in Ottawa to seek their assistance. You will see we have not been idle in exploring avenues to obtain foreign assistance in what we consider to be a very important question. We have also made enquiries through the American Embassy, and the Shell Company of Ceylon for assistance, so I feel something must happen in answer to our calls for help. The Committee on Preservation of Wild Life have also recommended that action be taken in regard to obtaining the services of a Specialist.

The long-awaited *Report of the Committee on Preservation of Wild Life* has now been published which, I am glad to see, has received favourable write ups in the Press. No doubt many of you have read this.

In preparing this Report the main theme has been directed to the proper usage of land, which is the only intelligent way of approaching the subject, as much of the land now used for Wild Life Reserves is serving a more useful purpose as such than it would be if developed.

I am glad to see stress has been laid on recommending biological and ecological studies of our fauna, as it is only through increasing our knowledge can we know how to tackle the problem of protection, preservation and Reserve management. During the course of the field survey we are carrying out we have found that the Reserves are not viable in regard to the elephant. This is an important question which will require much thought and determination to overcome. It is for this reason the recommendations to increase the Yala Reserves and Wilpattu Reserves must be pressed for, as with these inclusions it is more likely the periodic cycle of movement of various species of fauna will be catered for, which means that there should be no necessity for these animals to wander beyond the boundaries. Also, it has been stressed, in the Report, the most important factor is an adequate supply of water, but coupled with this must be the availability of fodder which is equally important.

The Committee has recommended the establishment of a *New National Reserves in the Baron's Cap area*, situated south of the Polonnaruwa-Velaichchenai road in compensation for the encroachments of Veddikachchi and Wasgomuwa. But I have been told it is very unlikely this will materialise as this land is wanted for development. This is where our Society comes into action. If this Baron's Cap Reserve is not established then a shameful amount of wild life will be slaughtered as the area contains a magnificent collection of indigenous fauna. We must whip up public opinion to our aid in making pressing representations for the Committee's recommendation to be implemented. To allow such an important recommendation to be turned down would be a horrid example of defeatism which we must not allow to creep in. We must make every effort to fight for what we know is right and not be put off by platitudes and clever political arguments. The recommended Mahaweli Ganga Strict Natural Reserve, situated north of the same road will not be sufficient for our needs or those of the animals we are trying to save as the environment is different in these two areas.

It has been the policy of the Society that a *National Trust* or

some such body be established to control our Reserves so that they can be made inviolate and secure. The Committee has recommended the establishment of a Corporation which is very sound and must receive our fullest support as this is the only way of obtaining security which is so lacking in the present set-up.

We must wholeheartedly support the Committee's representation of the position regarding the frightening number of *firearms* in the country, many of which are not necessary and so many of which are unlikely to be licensed. The question of firearms is a serious one which, unhappily, receives political attention. Let us hope the Island-wide check that was recently reported in the press, will have the desired effect of reducing the number of unlicensed guns and a consequent reduction of poaching which shows such little signs of abatement.

As the report states the existing Fauna and Flora Protection Ordinance is antiquated and wholly inadequate to meet the needs of the present day. It must be remembered this Ordinance became law 22 years ago when conditions were different and very few major amendments have been introduced subsequently. It is therefore abundantly clear a *completely new Ordinance* must be introduced to cope with the present day situation and with a view to the future. It is one thing to make laws and another to see they are enforced and carried out. This brings me to the recommendations in regard to the *Re-organisation of the Wild Life Department* which at present is quite inadequate to carry out fully efficient control. The functions of the Department, at present, are for the provision of amenities for visitors and tourists, and secondly the preservation of wild life and the prevention of poaching. The present *inadequate staff* is necessarily preoccupied mainly with the immediate problems which arise from these two aspects of the case. Little or no time is available for the study of animals and their ecology, or for knowledge of the wider aspects of reserve management. Transport is one of the most important necessities as a ranger, who is immobile cannot possibly carry out his duties with any degree of efficiency. This causes frustration with a marked falling off of efficiency due to no fault of the officer concerned.

We must urge that the introduction of the Amended Ordinance and the re-organisation of the Department be implemented with the least amount of delay.

The recommendations contained in the Report are all necessary but it will remain to be seen if we can get them implemented. Nevertheless a foundation has been laid which is sound in principle and is quite practical as long as the necessary finances are made available for their implementation. It is, I feel, the duty of our Society to do all in our power to see these recommendations through to a satisfactory conclusion. Then, to use Dr. Spittel's words "We will have achieved something worthy of our Society."

Our work seldom hits the headlines as we are unable to do anything spectacular. Our main duty is that of a "Watch dog" and adviser. As a "Watch dog" we have been successful this year in preventing a scheme to dam the Menik Ganga above Kataragama materialising. Our thanks for this are due to Mr. Ellapola for his approach to the Hon. the Minister concerned. Then our intelligence grape-vine reported the intentions of the Ceylon Army to establish an Artillery range on the boundary of Ruhuna National Park, a move I might say, we have viewed with considerable disfavour. We are most grateful to Mr. Poulter for having attended meetings with the Army Staff, but even his persuasive approach has not been able to make our soldiers completely change their minds. We are watching this situation and awaiting the Army's final decision with considerable interest.

At our Half-yearly Meeting held at Kurunegala it was

hoped the Society would be able to help the pocketed *Deduru Oya herd of elephants* by driving them to an area of greater security. Unfortunately this was not possible owing to the surrounding development that has taken place. The Department of Wild Life in conjunction with the Zoological Gardens commenced trapping operations in the hope that it would be possible for some of the smaller animals to be transported to Wilpattu and released at Maradanmaduwa. The result of such an experiment will be watched with great interest as it may open up possibilities for saving other herds which become trapped in residual forest reserves.

It has been decided by the Advisory Committee to extend the ban on the private capture of elephants for a further 5 years with a recommendation that pocketed herds may be captured by the Zoological Gardens. A special licence is being allowed the Zoological Gardens for the export of a limited number of elephants, which, I am given to understand, are required for exchange purposes. But, I cannot see why the Department of Wild Life should not be the main benefactor from such capital derived from our wild life to be used towards the better protection of the remaining herds. The value of one exported elephant would more than pay for the restoration of a water-hole.

We have not been able to make any further progress in the protection of the *Dugong* as it is not easy to obtain all the information we require on the ecology of this strange mammal. It is hoped we shall be able to collect more data at the breeding season, as without this information it is difficult to put up any recommendations in regard to partial seasonal controls on captures. A memorandum was prepared by me earlier in the year on the dugong, which it is hoped will be published in "Loris", but the information given is still far from complete. We shall be most grateful to any member, who has easy access to the west coast especially the areas around Puttalam, Mannar and Talaimannar, for information about captures, size of captured individuals, sex and any other biological details that can be collected in regard to breeding and feeding habits.

I wish to thank all those members who have so kindly helped me to obtain information for the Elephant Survey, and I sincerely hope they will continue to send in as much data as possible. I am interested now, mainly in the northern part of the Island, including Wilpattu and the Kantalai area.

I must thank all the members of the General Committee for their eager support and help; also my grateful thanks are due to Mr. Eric Wikremanayake and Mr. Rex Poulter for representing the Society on the Fauna and Flora Advisory Committee.

Dr. Spittel, I am sure you will agree with me, has again earned our gratitude for all the work he has put in on the editing of 'Loris'. 'Loris' has put us on the International map of Wild Life Protection due to the very interesting material members contribute and to the admirable way Dr. Spittel puts it together. Last year, when in London, I was purchasing some apples from a barrow-boy in Kensington and out of the corner of my eye recognised the well-known cover of "Loris" being carried by someone waiting to cross the road. I felt a feeling of pride to know that our journal is so widely read.

Mr. Noel de Costa annually gets bulldozed into auditing our accounts and I wish to thank him for so kindly doing this so ably for us.

I would also like to thank the Honorary District Representatives for keeping the Society alive in their respective Districts and I would like especially, to thank Mr. Edmund de Silva for organising and arranging such a successful Half-yearly General Meeting in Kurunegala.

Lastly but by no means least, I must thank Mr. Mansergh Hodgson for all the hard work he has put in as Honorary

Secretary and Treasurer. This is now becoming a very full-time job with our membership nearing the 800 mark as the collecting of subscriptions alone is certainly a formidable task. Mr. Hodgson has recently changed estates and has had to find a new Society clerk. This, together with the Society's work, have been no easy task for him. The financial position of the Society is entirely due to Mr. Hodgson's effort, and I am extremely grateful to him for his enthusiasm and the great help he has given me.

In conclusion, I would add a word of warning. The position of wild life in Ceylon is critical; it is something we could lose in the matter of a few years unless a more positive action is taken towards conservation. I do not think development of a country necessitates the extinction of its wild life, as long as we learn from the mistakes of the past, and view wild life as a natural resource of the country. The emphasis must be on research and it is no good the 'wild life' man saying sentimentally that this should be so, because it will impress nobody. Satisfaction with a memory is no good in conservation."

The President then went on to say that before calling for comments on the Report and Accounts for 1958/1959, it had been decided at the General Committee Meeting held in the afternoon that the remarks under Hambantota in the Report should be altered to read as follows:—

"During the dry season a small calf from a herd of elephants fell into a water-hole dug in the middle of a field in a village about three miles from Hambantota town. When trying to rescue the calf, the mother elephant fell in the hole also and got stuck in the mud. In her struggle to extricate herself

from the mud she killed the calf. The foregoing was reported at length in the Press."

The President then invited a member to propose the adoption of the Report and Accounts so that these could be exposed for further criticism.

Mr. Poulter mentioned in reference to Labugalla that there was a possibility that after the enlarging of the tank the surrounding trees would die and fresh grass would grow in their place.

Mr. Poulter also informed the Meeting that the Ceylon Army had definitely abandoned the idea of using Palatupana as an Artillery range.

Senator E. B. Wikramanayake then proposed the adoption of the Statement of Accounts.

Mr. Edmund de Zilva seconded.

The Report and Accounts were unanimously adopted.

(4) *Election of Office-bearers* for the year 1959/1960.

Mr. Norris proposed that Mr. Poulter should take the chair *pro-tem*.

Mr. Poulter thanked the Office-bearers of the Society for all the hard work that they had put in during the past year and particularly Mr. Norris for the extremely careful and detailed elephant survey that he was making, the first portion of which would be published shortly.

Mr. Poulter proposed that Mr. Norris should be President of the Society for 1959/1960.

The following members were then elected to the Committee:—

	<i>Proposer</i>	<i>Secunder</i>	
<i>President</i>			
C. E. Norris, Esqr.			
<i>Vice-Presidents :</i>			
D. B. Ellapola, Esqr. ...	} From the Chair S. Elapatha Dissawa		
<i>Hony. Secretary and Treasurer :</i>			
J. Mansergh Hodgson, Esqr. ...	Sen. E. B. Wikramanayake ...	D. B. Ellapola, Esqr.	
<i>General Committee :</i>			
Dr. R. L. Spittel ...	} Under Rule 6.		
Sen. E. B. Wikremanayake ...			
Dr. Brito Mutunayagam ...			
J. C. Byrnell, Esqr. ...	} W. W. Beling, Esqr. ...	Edmund de Zilva, Esqr.	
S. J. Kadirgamar, Esqr. ...			
R. S. V. Poulter, Esqr. ...			
Aloy H. Perera, Esqr. ...	Dr. R. L. Spittel ...	R. S. V. Poulter, Esqr.	
C. F. Dunbar Jonklaas, Esqr.	} Sen. E. B. Wikramanayake ...	R. S. V. Poulter, Esqr.	
Edmund de Zilva, Esqr. ...			
W. W. Beling, Esqr. ...			
M. L. C. Van Cuylenburg, Esqr.	} S. Elapatha Dissawa ...	Gorton Coombe, Esqr.	
A. H. E. Molamure, Esqr. ...			
F. W. E. de Vos, Esqr. ...			
G. M. Muller, Esqr. ...	D. B. Ellapola, Esqr. ...	R. S. V. Poulter, Esqr.	
<i>Editor of Loris :</i>			
Dr. R. L. Spittel ...	From the Chair		
<i>Hony. Auditor :</i>			
Noel de Costa, Esqr. ...	From the Chair		

The Office-bearers having been duly proposed and seconded were then unanimously elected.

(5) *Half-yearly General Meeting*

It was proposed by Mr. R. S. V. Poulter and seconded by Mr. Edmund de Zilva that the Half-yearly General Meeting in 1960 should be held in *Kandy*. This proposal was unanimously agreed to by the Meeting.

Life Membership—Mr. Gorton Coombe

In proposing the Life Membership of Mr. Gorton Coombe, The President, **Mr. C. E. Norris**, having said that he considered this a very great privilege, continued: "Not only had Gorton Coombe been a badge holder since 1928, but after being elected to the General Committee in 1933 he had served on it unceasingly since that date as Representative of the Central Province, in 1933-36; in 1937 as Honorary Warden of the Eastern Province Reserves; and from 1938 in the Executive Committee; for 3 years from 1940 he was Honorary Secretary; and from 1951-54 Honorary Treasurer; and finally he had been a Vice-President of the Society until 1959 for nine consecutive years. Gorton Coombe prior to his retirement in 1960 had resigned from all the many Honorary posts he held, only retaining that of a Vice-President to the Wild Life Protection Society, which is proof enough of where his interests are deep rooted.

"There is probably no member who knows Yala and Kumana as well as Gorton Coombe, he having covered this country very extensively first with his rifle and then his camera, and he has had the unique experience of counting among his companions in the jungle three generations from one family. First with the great Jungle Man Bandua, then Menika his son, and recently Robo Singho his grandson.

"It is never pleasant saying good-bye to our friends, especially of the calibre of Gorton Coombe, but we must take this opportunity of wishing Gorton and Paddy every happiness in their retirement.

"Gorton Coombe is one of those rare personalities, and as the greatest honour we can pay him in token of our thanks, our esteem and regard, I have pleasure in proposing that Mr. Gorton Coombe be elected a Life Member of the Wild Life Protection Society and I ask Mr. Aloy H. Perera to second the motion."

Mr. Aloy H. Perera in seconding the motion, said: "Not only was Mr. Gorton Coombe a jolly good fellow, and a great personality, but he had devoted over three decades to the preservation of the wild life of Ceylon, and there could be no more fit person than Mr. Gorton Coombe to be elected a Life Member of the Society." He had great pleasure in seconding the motion.

Mr. Gorton Coombe was then unanimously elected Life Member of the Wild Life Protection Society of Ceylon with acclamation.

Mr. Norris then asked Mr. Gorton Coombe, if he would kindly accept a clock presented by the Society as a token of his election of Life Membership.

Mr. Gorton Coombe in thanking the President and the Members of the Society said that he was deeply conscious of the high honour which had been conferred on him.

Mr. Coombe went on to say that in spite of the complimentary remarks of the Chairman he had to admit that he had, for the 30 odd years of membership, only been a very ordinary member who had enjoyed his leisure hours wandering through the jungles of Ceylon with gun and camera, and except for having obtained some good photographs he could not recall any reason why he should be amongst those illustrious names which are inscribed on the Life Membership role; except perhaps that he had been more or less a permanent fixture as Vice-President for a number of years and that he had not committed any crimes under the game laws, and had paid his subscriptions with the utmost regularity.

Mr. Coombe continued that he should possibly be sentimental at leaving such a beautiful Island in which he had lived and worked practically all his life, and although he and his wife would regret saying "*Au revoir*" to friends in Ceylon and its jungles, he could honestly say that he was leaving Ceylon and its perfidious politics with relief, and with high hopes for a new life without labour disputes among the labourers and their irresponsible leaders, which would only lead to the detriment of the great planting industry his forebears helped to start and on which Ceylon was so utterly dependent. As one of those planters surviving from those happy and golden days when Ceylon prospered under the "Servitude" of the Colonial Empire, he could only find it difficult to appreciate the present Freedom and all its attendant horrors.

Mr. Coombe added that while in Ceylon he had enjoyed himself vastly, and was now leaving with confidence that the next generation would have a better appreciation of Ceylon's Freedom and would be successful in saving the Island from the abyss into which it was fast sinking and in this connection Ceylon's great heritage, her wild life; it was possible that in another decade, the large mammals would be extinct, except for a few survivors in Wilpattu, Yala, and Dehiwela Zoo, in the latter case, only if Major Weinman had not resigned in utter disgust.

Mr. Coombe went on to commend the attention of all members to the Report of the Committee on Preservation of wild life, of which he was a member. He considered that the recommendations were sound and constructive; if ever they were implemented they would effect some improvement. If Ceylon's wonderful climate was to stay wonderful, certain areas would have to remain jungles; although the needs of wild life should be subordinated to those of man, there was still ample land for wild life to survive and thrive, provided that wanton poaching was stopped, and the encroachment of colonisation schemes kept under control. There would also be a hope if the Wild Life Department was granted the status of a Corporation in a National Trust which would give it freedom from political interference; the Warden would have to be assisted by a sufficient and fully trained staff in all grades, as protection of wild life had become a highly specialised profession.

Mr. Coombe concluded by saying that he hoped the Society would seriously consider the matters that he had mentioned and that they would pursue the issues with the same energy that other members of the Society in the past had done, especially as the Society was now in a vigorous state with an enthusiastic membership and a keen President and Committee.

Mr. Ellapola then proposed the name of Mr. J. A. de Silva as honorary member of the Society saying that the Society could have no more valuable person than Mr. de Silva with his vast knowledge of the jungles and at the head of affairs for the protection, and conservation of the wild life of Ceylon, as one of its members.

Mr. Hodgson in seconding the motion agreed with what Mr. Ellapola said and mentioned that the Society could not but benefit by having Mr. de Silva as one of its members.

The proposal met with unanimous approval.

The President, Mr. Norris, closed the meeting by informing the members that Mr. J. A. A. Perera of Photo Cinex Ltd. would show a film after the meeting, titled "**No Room for Wild Animals**", and after Mr. Norris had again thanked the President and members of the "80" Club for the use of their premises, the meeting closed with a vote of thanks to the chair.

J. MANSERGH HODGSON,
Hony. Secretary,
W.L.P.S.

Midford,
Norton Bridge.

Snips

LOCAL

A Gun to Count Elephants with

The Wild Life Department has just received a Cap-chur gun from a manufacturing firm in the United States for which an order was placed some two years ago. It is an expensive weapon : each costs about two thousand rupees.

The Cap-chur is loaded with a needle-like capsule containing a nicotine injection and is fired at an animal from a distance of about fifty yards. When the needle hits the animal it breaks and the nicotine travels into its blood stream and in a matter of minutes the animal is put to sleep, like a patient after a dose of morphia. The nicotine dosage is relative to the weight of the animal, that is to say, an elephant would require a bigger dosage than a buffalo or a sambhur.

The nicotine capsule did not have any deleterious effects on the animal. On the contrary, it relieved the beast of all pain during the process of its capture and disposal. What was important was that the needle should be fired at a fleshy spot of the beast, the ideal spot being the thigh, to obtain the best results.

The department will use the gun mainly on stray cattle which invade the national parks and eat up valuable fodder. How to deal with stray cattle is problem number one of the departmental field staff. These animals stray into the parks because there are not enough grazing grounds for them elsewhere. Almost all their grazing grounds have been swallowed up by the colonisation schemes of the Lands and Land Development Department.

What happens is that the permanent animals which live in the parks, deprived of their grazing grounds, are forced to seek new grounds which are very hard to come by. So they go on the rampage devastating valuable crops and chenas.

What the field staff propose to do is to capture the stray cattle from the parks with the

help of this gun and transport them to points far away from the parks, so that the grazing grounds will serve only the needs of the permanent animals within the parks.

They will also use the gun to capture certain categories of wild animals which they will mark with metal collars to ascertain whether they migrate to distant places. So far, the department has not been able to establish for certain the areas to which these animals migrate.

Also, they will use the gun to capture better specimens of deer and transport them to areas where the less virile deer are found, so as to improve the breeding strain of the less virile animals.

With the help of the gun the field staff also expect to capture the sick and wounded animals and give them medical care and attention.

It may sound fantastic nonsense to the laymen, but the department has been toying with the idea of making use of the gun for the purpose of taking an accurate census of the Island's elephant population which has so far not been properly taken.

This is how the department proposes to go about it. A specially prepared dye will be introduced into the capsule and fired into the animal's rump.

Speaking purely from personal experience Mr. de Silva, Warden of Wild Life, told me that even the counting of an elephant herd was a difficult and exacting job which required a lot of patience.

While out on circuit recently, Mr. de Silva saw a herd of sixty-two elephants, and it took him and his field staff nearly two full hours to take an exact count of the herd with the help of powerful binoculars from a distance of only three hundred yards.

25.10.59.

REGNICK.
in *Sunday Times*.

Elephants in Hambantota Area

A large number of elephants including about 35 calves ranging in age from about one to four months were seen at the Gonnoruwa tank, eight miles off Hambantota.

Crowds visit Gonnoruwa by night to watch elephants bathing and disporting themselves in the water with their young.

A watch hut has been built in a tamarind tree from which people, including Government officials watch the animals.

In addition to the elephants that come to the Gonnoruwa tank there are many more in the district.

A few days ago five elephants were seen at Mahalewaya with two calves. Three more elephants roam the area around Kahalankala. Elephants have also been seen between Weligatta and Wirawila.

At Mirrijjawala, a village three miles off Hambantota, three elephants destroyed 27 coconut trees in a plantation.

September, '59.

Elephants Invade Villages

Following the clearing of the Attaragalla forest for the Mi-oya diversion scheme, wild elephants have begun to invade villages in the area and are reported to be damaging cultivations.

The Mi-oya diversion scheme provides for the opening of 5,000 acres of forest between Galgamuwa and Ehetuwewa.

It is feared that with the further opening of jungle, elephants may begin to stray on to the Anuradhapura road and the railway line between Galgamuwa and Anuradhapura.

September, '59.

Elephants at Sugar Again

About 50 elephants on the prowl are eating up and damaging about 500 acres of sugar-cane in Kantalai.

Starting at dusk they roam the plantation during the whole night eating the cane and play-

ing about. They leave in the morning to the adjoining jungle where they rest during day.

Recently, a labourer was killed by one of the elephants when he tried to chase them out of the plantation.

With plenty of water available in the Mahaveli Ganga which is only a few miles away and plenty of sugar-cane in the State sugar-cane plantation these elephants are having a time of their lives.

January, 1960.

Observer.

Trappers Give up Elephant Hunt

The plan to trap the elephant herd in the Deduru-Oya basin organised by Mr. Aubrey Weinman of the Dehiwela Zoo, ended abruptly when 27 trappers from the Mannar District left for their homes.

These men spent several days in the jungles of Tissegama, Rambeapitiya, Nariagama, and other hamlets on the banks of the Deduru Oya but their operations were held up for days due to continuous rain.

A herd of elephants had been terrorising these villages for the past few months destroying crops. Relief was given to these villagers by Mr. G. M. Sparkes, Government Agent, Puttalam, and Mr. Alick Jayasekera, Divisional Revenue Officer.

The wages of elephant trappers are high as they are said to be "specialists" in their profession. Twenty-seven experts were employed for more than two weeks and one baby elephant was trapped and removed to the Dehiwela Zoo.

24.11.59.

Daily News.

Wild Elephant Around Elephant Pass

A big herd of wild elephants which had been roaming in the Paranthan and Karachchy jungles and had damaged the fields at Chalampan has now entered a small area of jungle in the outskirts of the Elephant Pass lagoon.

The elephants who had taken a solitary track

had got into this stretch of jungle which is surrounded by houses and paddy fields.

Some of the farmers who live in constant fear have attempted to shoot the animals. The scared animals are now scaring the farmers.

The District Revenue Officer, who was informed of the danger, had visited the area and asked the Government for permission to invite the trappers from Mannar to capture the animals. They would prove to be a good source of income to the Government if they were trapped successfully.

December, '59.

Observer.

Midnight Feast for Elephants

A driver attached to the Lands branch of the Anuradhapura Kachcheri, was driving alone in the night with a lorry-load of coconut plants, when the vehicle developed engine trouble near the 3rd mile post on the Anuradhapura-Galkada-wala Road—a lonely spot in a thick jungle.

The driver, Carolis Appuhamy, tried without success to get the vehicle started. Finally, he decided to sleep in the lorry.

Appuhamy had not slept long when he was awakened by a noise. He got up to see a herd of wild elephants surrounding his lorry and eating the plants.

After the elephants went away, Appuhamy crawled out of his hiding place to find that only three of the hundreds of plants that were in the lorry were left.

26.12.59.

Times.

A Mongrel's Costly Bite

A dog, believed to have been rabid kept biting the foot of an elephant at Ilukwatte.

The thick skinned pachyderm put up with the little mongrel's antics for a while. Then, suddenly, it flew into a rage and with one angry crush of its hind leg snuffed out the life of its tormentor.

27.12.'59.

Sunday Times.

Raja was too Dangerous to be taken in Perahera

ORDER IN KANDY STAMPEDE INQUIRY

“The previous behaviours of Raja (the elephant) showed that it was too dangerous an animal to be taken in a Perahera,” said Mr. Fred E. Alles, the Kandy Magistrate, who held the inquiry into the circumstances of the deaths of 15 persons who were killed in the stampede after Raja had run amok in the Kandy Perahera on August 19.

The magistrate also held that there was no alternative but to have the elephant shot.

On the evidence there was no jeering or shouting by the crowd.

The demand by the owner of the animal for compensation was preposterous—on the contrary it was against him that any claim for loss of life and damage to property should be made.

There did not seem to be any central authority with regard to the conducting of the procession.

There might be methods of minimising the risk to people when elephants were taken in procession.

The chiefs of the devales should get together at some period before the Perahera to investigate the history of the behaviour of elephants who were to be taken in the Perahera.

“The previous behaviour of Raja showed that it was a dangerous animal to walk in a procession amongst so vast a crowd. Its history is that it had been captured when it was very young from the jungle, and from its young days it had partaken in the Esala procession, but later on it had proved to be ferocious and not docile. It had killed its mahout at one time, injured another and later it had been used by a co-mahout of Heenbanda to ram and kill a man against an embankment by goading him. I had got the previous mahout Keerala to relate in court what he knew of this animal. He said that he was the person who was said to have incited the animal to kill a man. Keerala had been subsequently indicted and sentenced to a term of six years imprisonment. Of course he

tries to make out that it was a false case. I do not believe him."

The magistrate began his order with the observation that "The Kandy Esala Perahera is held each year, and is well-known throughout the length and breadth of the Island and also foreign countries. People from various parts of Ceylon and even foreigners came to view that grand spectacle. I am afraid what was begun as a religious procession has in the course of time turned into a procession more of pomp and pageantry and lost much of its religious significance. In the old days men and animals moved slowly as elephants normally do, but now we live in an age of speed where everything is done in a hurry. Hence it will be seen that a slow moving procession is being presented to a fast moving public.

"I suppose in the past people came and gathered along the route of the procession, and as the procession was passing cries of 'sadhu, sadhu' were uttered. Today, however, those cries are seldom heard except the chatter and the bustle of milling crowds on both sides of the pavement along the procession route. People of various persuasions arrived in Kandy in every form of transport to view the procession and hurried back to their homes."

The magistrate's verdict was that 10 of those killed came to their deaths during the stampede by crowds pressing on them. Three died as a result of being trampled on by a crowd of sight-seers who fled in panic; one died by being trampled by the elephant and another by being struck with the trunk of an elephant.

21.12.'59.

Daily News.

Four Elephants found dead—Anthrax Suspected

Investigations are being made by Mr. G. N. Q. de Silva, Divisional Game Ranger, Anuradhapura, into a report that four elephants have been found dead at Gambirigaswewa.

It is suspected that there is a possibility of some pestilence such as anthrax which may have broken out among elephants.

The Game Rangers are attempting to collect droppings of these elephants to be sent to the Professor of Veterinary Science at the University.

On an earlier occasion four elephants were reported dead in similar circumstances in Divulpitiya in the Wannu Hatpattu. They belonged to a different herd.

Fatal diseases in epidemic form among elephants is not common.

25.12.59.

Daily News.

Diseases of Elephants

Acute fatal disease of domesticated elephants has been investigated in many countries, especially in Burma, Siam and India. The only text books on the subject are those written by British Veterinary Surgeons Gilchrist (1847), Slym (1878), Steel (1885), Evans (1901), Hepburn (1918) who were employed by the great teak-exporting companies or the governments of those countries.

Various articles on disease in elephants have been published by veterinary surgeons or medical pathologists attached to Zoological Gardens or employed by menageries and circuses. These articles are scattered throughout the veterinary, medical and zoological literature of Great Britain, France, Germany, Poland, Russia and the U.S.A.

Little is known about the diseases of wild elephants, but there is no doubt that they can contract the same infections observed in captive elephants. In addition, cases of accidental or deliberate poisoning have been recorded. It is easy to see why the exact cause of death in wild elephants is not always ascertained. By the time, the carcass is discovered, decomposition or mangling by predatory wild animals (porcupines, jackals, etc.) has occurred. However, if a veterinary surgeon is called in soon after the discovery, he should be able to decide if the cause of death is anthrax or another septicaemic infection such as haemorrhagic septicaemia, simply by making films of blood from the ear veins and staining with a suitable stain then examining under a microscope.

If he suspects *anthrax*, the carcase should not be cut open as the access of air to the blood allows the innumerable bacilli to sporulate. *The spores can live for countless years in the soil* and if ingested by a grazing animal may set up the disease again. Moreover, the infection is dangerous to man. The carcase should be cremated. *Haemorrhagic septicaemia* is a common disease of elephants working in the teak forests of Burma, according to Evans (1901-1910); it can be very acute and may be mistaken for anthrax which also was common in Burma before an effective vaccine was devised.

Anthrax is not a common disease in the cattle and buffaloes of Ceylon, but haemorrhagic septicaemia has appeared in great epizootics in these animals during the past few years in the North Central, North Eastern and Eastern Provinces. The casual agent is a small non-sporing bacterium carried in the nasal chambers of apparently healthy cattle and buffaloes. For some reason, probably the stress of work, the bacteria suddenly become very pathogenic and invade the blood causing acute illness and sudden death.

It could easily happen that the infection spreads to wild buffaloes and from them to wild elephants.

Acute illness and sudden death in cattle and buffaloes may also be caused by the so-called "gas-gangrene" bacilli; one of the most common of these is *Clostridium septicum*, the cause of malignant oedema in cattle, sheep, pigs. Although there are no records in the literature, it seems likely that elephants could become infected with this bacillus. It was the only pathogenic bacillus found in material from a dead elephant in Yala in 1952 and again from a carcase in Lahugalla in 1959. No specimens have been received for examination from the four dead elephants recently mentioned in the newspapers.

C. A. McGAUGHEY
(Professor of Veterinary Science,
Ceylon University).
Observer.

A Wild Elephant in the Colombo Fortress—1751

THURSDAY, 25th November.—“An extraordinary occurrence took place here this day. At about 2 o'clock in the early morning a wild tusker (elephant) made his entrance into the fortress by the Rotterdamsche Poort, through the archway where the water from the Castle moat has its outlet into the lake. He then went along the ramparts, past the Gaalsche Poort, and, issuing out again through the Point Enkhuyzen, passed by the watch behind the hill, then attacked the sentinel who was on guard at Kaffir's Poort, smashing his cartridge case and completely breaking and wrenching off one arm from the body with his trunk. He got down at the point facing Delft's Poort and marched along various streets of the Castle till 5 o'clock in the morning, when, at the gun carriage sheds which stretch up to the Justice Chambers, he came with a sailor who was proceeding to fetch drinking water, whom he seized and dashed to the ground, completely robbing him of life. He then retreated to the Amsterdamsche Poort towards the smith's forge, where, finding no mischief that he could do, he ran through the so-called Strandpoortje den April towards Matroos Point. Here the people saw him coming and shut the gate; whereupon he displayed his strength by making a hole in the wall with his trunk, and, turning round, would have wreaked his vengeance on a Parawa who happened to be there, and who would have had to pay for it with his life, if a crowd of people had not assembled and scared the brute away. Thus surprised, he took his flight by the Matroos Point into the sea. His Excellency the Governor then ordered a party of fishermen with their thonies and some Maldivians with their boats to set out and capture him, having also provided a boat with some rope for the purpose. These, about 1 o'clock in the afternoon, made him fast, while his hind legs were under water, and thus, by 3 o'clock in the afternoon, he had been drawn out of the water on to the shore on the Galle road about three-

quarters of a mile from Colombo. Then, breaking himself free of all bonds and of all who pressed upon him, he took flight back into the woods.

R. G. Anthonisz's Report on Dutch Archives from Official Diary for 1751.

Hoodoo

By B. S. DE SILVA

There is a file tagged "hoodoo" in the Local Government Ministry. It deals with the jungle shrine of Kadiradeva, who is overlord of Ruhuna. Legend has it that the wrath of the Gods, sooner or later, befall those who attempt to make improvements to the jungle shrine of Kataragama.

The story goes that the last act of the ex-Minister of Local Government before quitting office was to make a minute in the file not to go ahead with the re-organisation scheme at Kataragama just yet. Perhaps the ex-Minister was aware of the legend and the hoodoo.

Legend has it that the last thing the first Prime Minister of Ceylon did was to visit Kataragama and discuss improvements to the place. The story runs that three other Prime Ministers, too, ended their term in high office, soon after they touched this file.

It is now the Central Planning Commission that wants to carry out improvements to this jungle shrine.

The Commission wants to remove all "madams" from the premises of the Devala to the opposite side of the river.

The trustees of all the madams have objected to the proposal on the grounds that these places have a strong religious significance to various peoples.

They say that these madams have been built in places indicated by God Kataragama to various saintly devotees during their meditations.

Again, at the express command of God Kataragama, many rituals and pujas are performed at these places, according to sastras, during the time of the Perahera. And without these, the Perahera would lose its significance.

In the existing madams all of which are over thirty years old—a few over fifty years and two over hundred years—deities have been installed and daily pujas according to sastras are performed. It would, therefore, not be correct according to the sastras to shift these deities from place to place, say the trustees.

The 64,000-dollar question is: Are these improvements to the jungle shrine really necessary? Why allow encroachments of modern civilisation to turn this holy place into a tourist centre.

The devout old pilgrims yearn for those good old days when they trekked twelve miles from Tissa along the gravel roads to pay penance at the feet of God Kataragama.

Wild animals from the nearby Yala sanctuary prowled on hee roads then.

Today, when the jungle paths have given way to a macadamised road stretch along which toll the high-speed cars, conveying the rich and the leisured, the only thing out of the way would be an occasional drunk.

It seems a pity that the religious cries of "Haro, Hara" has yielded to the honking of automobile horns.

The aura of the "mysterious" that shrouded the forest-lined road is lost—perhaps, for all time.

Perhaps, this may be why the ire of the gods fall on those who try to make this holy place look more and more like a Parisienne boulevard.

Killed by his Pet Polonga

Mr Headley Patrick Steinwall (32), of Windsor Avenue, Dehiwela, whose hobby was rearing reptiles died after being bitten by his pet "polonga" (Russel's Viper).

It appears that Mr. Steinwall wanted to show his pet to some friends and was putting his hand inside a jar to take it out when one of the visitors flashed a torch. This had frightened the reptile, which bit his outstretched hand.

Mr. Steinwall promptly gave himself the usual first aid and thought no more about it.

The following morning, however, his condition became serious, and snake bite specialists were called in but it was of no avail.

Shortly before he went into a coma, from which he never recovered, Sydney told his father, "Don't kill the snake, Daddy." Send it to the Zoo. It will be happy there."

Observer.

Leopard Killed in Fowl Run

A group of young farmers at Kanagapuram were awakened one night by an unholy din in their deep-litter poultry run.

Some of them rushed to investigate and found a leopard feasting on the chickens.

Two farmers jumped into the fowl run armed only with clubs and managed to kill the leopard with blows on the head.

When the excitement was over, the farmers took stock and found that as many as 130 fowls had been killed.

Lizard vs. Cobra

I witnessed many years ago an encounter between an outsized kabaragoya and a large cobra.

One morning, I was walking in my garden when I heard a noise of something thrashing about in a small patch of cinnamon adjoining my garden. I walked in cautiously to find a battle royal going on between a kabaragoya and a cobra. The cobra's head, with hood spread was raised about 2 feet above the ground and he struck repeatedly at the nose of the great lizard which was attempting to seize him, and at the

same time was lashing out with his tail to knock the cobra out.

At last, with one mighty sweep of his serrated tail, the lizard rolled his adversary over, and proceeded at once to bite him through the neck preparatory to eating him.

I did not wait to see him enjoy the feast, but in the evening I walked through the cinnamon patch to see if the kabaragoya was anywhere about, and came upon him stone dead!

The cobra in dying had revenged itself on its adversary.

E. E. DAVIDSON.
Times.

Migoda.

A Four-footed Snake

A sailor attached to H.M.Cy. S. "Tissa" made a phenomenal discovery of a cobra with four legs in the Royal Ceylon Naval yard at Trincomalee. The four legs in fact, brought about the end of the snake.

The sailor on his way back to the camp from duty kicked at a dead cobra found on the road and to his utter surprise found that the overturned cobra had four legs.

The rating carried the two-foot long freak cobra to the camp. At the camp a more enterprising officer wanted to delve in the secrets of this creature's anatomy. He cut open the snake's belly to find a half digested giant lizard inside.

The lizard apparently had struggled from within the stomach of the cobra after it was swallowed and in the process the four legs of the lizard which had pointed nails had pierced through the soft belly of the snake causing its death.

Daily News.

Threat to Game in Africa

In Africa the poacher threatens the last stand of the dwindling wild life which was to have been preserved for all time in national parks set aside as game sanctuaries, and used as the raw material for the tourist trade, which now ranks third among East Africa's industries.

In creating these parks, the authorities were acquiescing in the doom of wild life outside them. Man is increasing with such speed, and science so efficiently demolishing the last barriers of the wilderness, that there will soon be literally no room for wild animals. The situation even in the parks is precarious. It was a shock when the Ngorongoro Crater and its highlands with their wonderful fauna, and famous tourist lodge on the rim, were excised from the Serengeti Park and, from last July, turned into a Conservation Unit where the interests of the local Masai, not of the game, must prevail.

Once the stock of any species declines below a certain level, nothing can save it. The Tanganyika game warden's last report stated that the rhino, cheetah and in some areas the lion, were all approaching this level, and several other species were on the danger list.

Why should game within the parks find itself in jeopardy? For one thing it migrates in search of grass and water to be ravaged as soon as it sets foot over the boundaries. For another, it is poached around and inside them.

During July, in Tanganyika a ranger and his scouts captured 47 poachers, 150 wire snares and 60 bows and quivers of poisoned arrows. A previous sweep in the same area had yielded 1,036 steel-wire snares—enough to destroy over 30,000 animals in one season—30 camps and over 1,000 lb. of dried meat. Some poachers' rewards are as follows: wildebeeste tails, used as fly-whisks, 35 shillings each; lion claws, used as charms, five shillings each; lion fat, five shillings a bottle; hairs from giraffes' tails, a penny a piece. A good leopard skin fetches £20.

The worst sufferers are rhinos, whose horns are still believed to have aphrodisiac properties.

They are child's play to slaughter and at present rates will not survive much longer. Probably there are fewer than 1,000 left in all Kenya.

What can be done to save the remainder? To stop poaching is the first step. This needs much more money, with severer penalties.

Proposals to vote more are unpopular with Africans, who passionately want every penny to go on schools, and endorse a leader who remarked: "You have no wolves in England. Why should we be expected to keep ours?" And so beyond the question of policing lies an urgent need to convince Africans, whose leaders will soon be ministers of finance, of the value of their own heritage.

Anyone who has seen the alarming spread of desert conditions in East Africa can testify to the disastrous results of replacing herds of game, which do not destroy their habitat, by herds of cattle, which do. But it seems only recently to have occurred to anyone that game, instead of being blotted out, could be developed scientifically as a more efficient, cheaper source of meat than scrub cattle. Experiments at Makerere, in Uganda, have shown that buffaloes convert inferior pastures into protein much more economically than domestic livestock do. If game instead of cattle were "farmed" on the great semi-arid steppes, where vegetation easily succumbs to drought and over-grazing, it would give a much higher return of protein, and allow African hunters to continue in their traditional way of life.

A recent inquiry whether parties of African schoolchildren might not be conducted round the parks was met with the blank query: "Who is to pay?" That is the question; but the western world is rich and is reaching a point where more and more people will have leisure to enjoy less and less. For want of a nail, the kingdom of the beasts is in deadly peril. Nature does not re-create what man has destroyed.

ELSPETH HUXLEY
London Times.

Bullet Injections to Save Rhinos

"Operation Rhino" is the toughest and most complicated task facing game rescue teams at Lake Kariba. Plans have already been made to capture three rhinos on two doomed islands in the lake, and the date for action depends on how fast the water rises. All efforts to capture the rhinos on the two islands last year failed. Apart from the bulk of the animals—one of them is estimated to weigh more than 3,000 lb.—their ferociousness has kept rescuers at bay.

But now five rangers have thought of a daring plan. After luring the rhinos to a suitable place, a ranger armed with a specially made rifle will fire an eight-inch dart with a hypodermic needle which will inject nicotine sulphate into the thick hide, somewhere near the rump. It will be a matter of minutes before the "bullet" injection takes effect. Once the rhino is dazed, two more rangers will move in with syringes to pump 600 c.c. of pentobarbitone sodium into the hide. Each man will have to give the animal about 30 injections. It is estimated that the second series of injections will have affect on the rhino about 30 minutes after being given.

While the animal is lying senseless, another team will slip a tractor tire round its neck. This will act as a lifebuoy to keep its head above water when the rescuers drag it in. No difficulty is expected in this operation as there will be enough men to move the animal. The rhino will then be towed to the mainland—a distance of about 12 miles—by launch.

6.1.60.

London Times.

Indian Rhinos still in Danger

About a year ago I wrote of the danger that the one-horned Indian rhinoceros may become extinct in Nepal. A seemingly reliable message from Katmandu to the World Congress on Nature Conservation at Athens alleged that all but thirty-five of the 400 rhinos believed to be surviving in Nepal had been killed by poachers.

Now we know that this report, like that of the death of Mark Twain, was much exaggerated. Yet though in fact some 300 rhinos are left in Nepal, nevertheless they are still in grave danger for both their numbers and their habitat are shrinking.

Already they are much shyer and more nocturnal than their protected Indian relatives. Within the next ten years they could well become extinct.

As soon as the news was received at Athens, the Survival Service of the International Union for the Conservation of Nature asked Mr. E. P. Gee, the world authority on the great Indian rhino, to investigate and report. This he has now done, and his report has appeared in *Oryx*, journal of the Fauna Preservation Society.

About 350 of these large rhinos live in sanctuaries in Assam and another fifty in Bengal, where they are carefully protected by the Government of India. Yet even now that the world population can be assessed at about 700, the name of the great Indian rhinoceros must still remain on the list of threatened species maintained by the Survival Service.

Mr. Gee's report shows how easily the last 300 in Nepal could be snuffed out, and indeed his recommendations epitomise the problems of preserving large game animals throughout the world.

In Nepal the rhinos inhabit a flat valley along the foot of the Himalayas, with sub-tropical vegetation and forests of sal trees, a valuable hardwood. For many years the area was forbidden to all comers, except the rulers of Nepal and their hunting guests; no white man seems to have visited it before 1941. Moreover, the malarial mosquitoes deterred human settlers, both licit and illicit.

Now the situation has changed. Since 1951 democracy has deprived the rhinos of their former privilege of being shot only by the blue-blooded, and settlers have been poured into the Rapti Valley, whose grasslands are suited to agriculture, so reducing the ground available for rhinos. Well over 12,000 settlers have already arrived,

and double this number will come in the near future.

In 1958 at least sixty rhinos were poached, mainly for their horns, which are held in the East to possess aphrodisiac properties, and so, despite the sternness of Marxist puritanism, are still much in demand in China.

In Nepal, however, as in Africa, the real danger to the larger animals is less from the poachers than from the cultivators. It is vital that in all undeveloped countries a balance should quickly be struck between the urgent economic needs of the expanding human population and the scientific and cultural necessity to preserve an adequate sample of all the large animals surviving in the world today.

Mr. Gee recommends that the Mahendra National Park where the rhinos live should be enlarged, as it is inadequate for their needs; that a few pairs should be introduced into another protected area in Nepal so that all the eggs are not in one basket; that more guards should be provided against poachers; that the importance of the rhinos as a tourist attraction should be stressed; and that there should be an educational and publicity campaign to bring home to the people of Nepal the importance of preserving that part of the world's heritage of wild life that is entrusted to their country.

RICHARD FITTER

London Observer.

Now Cars Bother the Lions

Even in the wide open spaces of Nairobi's Royal National Game Park there is little peace these days for the lions which are its pride.

Although the park is only 10 minutes' car ride from the centre of Nairobi, it is large enough to accommodate all its many kinds of wild animals, as well as visitors—except, perhaps, at week-ends.

But lions are so popular with visitors that when one or more are sighted convoys of cars converge on them, though it means leaving the rough dirt roads and jogging over scrub.

Sometimes the lions just lie in the sun or the shade of a thorn tree until motorists become bored and drive off. But at other times they get annoyed, particularly when pursued by cars.

Many visitors enter the park to take photographs, but when lions are surrounded by as many as 30 cars at a time there is little artistic value in the pictures.

Recently, over-eager visitors have caused the wardens considerable anxiety.

Several times they have had to remonstrate with motorists who were crowding in on the lions. Brunette, a lioness who recently had her tail chewed off by a hyena, awoke from a doze one day to find herself encircled by about 20 cars.

When she and her companion moved off towards some bushes they were followed. One car got stuck and its occupants helped by a park warden, had to get out and push the car clear with the lions only a few yards away.

And cars took part in a disorderly rush when a black-maned lion and a lioness moved away from their resting place. Wardens had to drive across the path of the advancing cars to keep them away from the animals.

There is now a notice at the main entrance warning visitors that no vehicle which is not roadworthy will be allowed in the park.

But even this precaution does not cover every emergency, for new cars with new tyres are liable to get punctures on the stony roads. When this happens the motorist must get out and change the tyre, even in sight of a lion, leaving the door open for quick retreat.

19.1.60.

Evening Standard.

The Voice and the Beast

The silence was suddenly torn apart by a single high-pitched bellowing scream. It was bizarre to the point of nightmare. It was as if one had received a sudden unexpected blow on the back of the head. As I stood there, heart thumping, transfixed with shock, one of the guides grabbed me by the arm and half dragged

half pushed me through the undergrowth towards a little rise where the others were standing. I looked at the point where they were staring and I remember calling out aloud, 'Oh my God, how wonderful!'

And the truth is he was wonderful. He was a huge shining male, half crouching, half standing, his mighty arms akimbo. I had not been prepared for the blackness of him; he was a great craggy pillar of gleaming blackness, black crew-cut hair on his head, black-deep-sunken eyes glaring towards us, huge rubbery black nostrils and a black beard. He had the dignity and majesty of prophets. He was the most distinguished and splendid animal I ever saw and I had only one desire at the moment: to go forward to him, to meet him and to know him: to communicate.

This experience (and I am by no means the only one to feel it in the presence of a gorilla) is utterly at variance with one's reactions to all other large wild animals in Africa. If the lion roars, if you get too close to an elephant and he fans out his ears, if the rhinoceros lowers his head and turns in your direction, you have, if you are unarmed and even sometimes if you are, just one impulse and that is to run away. The beast you feel is savage, intrinsically hostile, basically a murderer. But with the gorilla there is an instant sense of recognition. You might be badly frightened, but in the end you feel you will be able to make some gesture, utter some sound, that the animal will recognise and understand. At all events you do not have the same instinct to turn and bolt.

From *No Room in The Ark*
by ALAN MOOREHEAD.

Bee-stings

A quick look may show a bee-sting *in situ*. The honeybee is peculiar in that she leaves her

sting and poison apparatus behind, and these go on injecting venom for several seconds. Hence advice that the sting should be "gently removed" is bad, for this would squeeze the poison sac. The bee-sting should be scraped out with the finger-nail or wiped out with a handkerchief. Antihistamine creams promptly applied are of some help. Stings on the back of the neck have a bad reputation, possibly because of reflex vagal stimulation.

British Medical Journal.

On Cleaning Birds

In articles on gamebirds, I notice that hunters often complain about defeathering and also about the birds having a "gamey" smell and taste. The solution is simple, and all it requires is quick action after the bird is killed. Defeathering is easy if you do it at once, before the bird has a chance to cool. Hunters often postpone defeathering so they can show their birds to other hunters or friends—then it is necessary to use hot water for the job. Game smell is avoided if you gut your bird as soon as it is downed. If you don't, gases form inside the bird, and the carcass takes on an unpleasant odour. It is worse if the intestines have been punctured. The taste is similarly affected. To test how effective these measures are, I'd suggest that this season you defeather and gut one bird immediately after you kill it, and do nothing with the other one until you get home. Make a comparison between the two by smelling them.

• O. T. TONG
in "*Outdoor Life*"

Correspondence



Tiger Skin—9 ft. 4½ ins.

13-foot Leopard—My Hat

Sir,

Reference the correspondence in the last issue of "Loris" concerning the 13-foot leopard shot a short time ago in Ceylon. This must indeed have been a wonderful animal and I feel that every endeavour should be made to have the skin preserved in the Museum or some such safe place.

To give an idea of what a magnificent animal this must have been I enclose a photo of the skin of a tiger which I shot some years ago in India and which measured a mere 9 ft. 4½ ins. from nose to tail (my height is just under 6 ft.)

I would very much like to have seen this

huge leopard, which was, apparently, nearly half as long again as my tiger.

"BULDEO."

Sir,

I congratulate you on the December number of "Loris", which I thought was positively the best which you have published. I read it with great interest from cover to cover.

With all good wishes to you and other members of the W.L.P.S.

GERALD PIPPET.

Grayswood Road,
Haslemere—Surrey.

A New Species added to Ceylon Avifauna

The Buff-breasted Sandpiper—*Tryngites Subruficollis*

Sir,

A specimen collected by Dr. T. S. U. De Zylva on 5th March, 1960, at Kalametiya lagoon was forwarded to me for identification. My identification has been confirmed by the Senior Scientific Officer in the Bird Room at the British Museum (Natural History), London. Sex, unfortunately, unknown.

Kalametiya Lagoon, situated on the southern coast of Ceylon, is bordered by a grass plain on the eastern side which is cropped low by cattle and buffalo. Dr. De Zylva states the bird was seen by itself on this grass plain reminding him of a Golden Plover; on making a closer inspection through binoculars he realised it to be something new and out of the ordinary. This is the first record of this species from Ceylon which adds a new bird to the list of our Avifauna.

There is no record of this species having been reported before from S.E. Asia or, indeed any part of the palearctic region except the British Isles and localities within 50 miles or so of the coast of Western Europe and Japan

and associated Islands. Being a nearctic species it is to be expected a few stragglers would, from time to time, turn up in either Japan or Great Britain but it is quite another matter for it to be taken in Ceylon. The specimen will be added to the collection of the British Museum (Natural History) London.

The handbook of British Birds gives its distribution as :—

“ N. W. Nearctic region—breeds on arctic coasts of N. America from N. Alaska to N. Mackenzie. (No proof of breeding in E. Asia). Migrates through N. and Central America to S. America (Argentina and Uruguay): noted on migration N. E. Siberia. Casual in Japan, W. Indies, Bermuda, and accidental in France, Switzerland. Heligoland, Red Sea, and possibly Turkey.

Nineteen specimens have been recorded from the British Isles, mostly in September, but one in May, one July, one August, one October.”

It has no subspecies. It can be distinguished by pink-buff under parts and by inner webs of the primaries and secondaries being freckled with black, and short, slender, black bill; the head is noticeably rounded.

Dr. De Zylva is to be congratulated on his keen observation thus making this most interesting find possible.

C. E. NORRIS.

Namunukula,
Ceylon.

Hawk Eagle and Painted Stork

Sir,

Whilst staying at Yala over the New Year we witnessed an incident which may be of interest to readers.

At a pool near the track to Jamburagala, a Painted Stork was feeding, and it took off as we approached. It was in flight about twenty feet up when a Hawk Eagle, which had been perched in a tree, followed and attacked it. The Hawk Eagle struck the stork's back from above and

behind, bringing the stork down immediately, and both birds were lost to sight in the scrub. We felt sure the Hawk Eagle had made a kill, and wondered if such “big game hunting” is a frequent occurrence? Considering herons used to be hawked at, it is not, I suppose, too surprising, but I had always understood that the Hawk Eagle preyed on small fry.

VALERIE JONES.

Jawatte Road,
17.1.60.

Blue-eared Kingfisher

Sir,

We had spent a few delightful days being looked at by the animals in Yala, the highlight of our stay being the thirty minutes or so spent in watching a leopard at Vepandeniya. He was a colourful character with a very nice line in yawns but I wanted an action shot. I was disappointed.

On our way back to Colombo we had decided to go *via* the Wirawila bund, the anicut between the tank and Tissa being the home of quite an assortment of birds. I have never claimed to be very clever at identifying them, but I do know that some are different coloured from others and some quite definitely larger than others and, of course, *vice versa*.

The Black-necked Stork I do not confuse with the Purple Coot, and I can tell a Pelican from a Kingfisher. You will have noticed that I am good at colours and can tell one colourful bird from another. On this particular morning I had made no mistake with Mr. Jerdon's delightful Chloropsis or the Russet Flycatcher that fluttered from tree to tree just ahead of his tail. The Pied Kingfishers casually divebombing the fast flowing water were easy, so too were the Shags, one of them sporting smart white ear tufts. The Striated Weavers were hard at work a little further on, and in fact the sun was up, the birds were about and Jones was on the ball. On the banks of the anicut there was also a rather smart little

kingfisher ; he was not particularly interested in fishing but seemed to be trying to find the ideal perch whence to survey the passing scene ; I was rather impressed with him because he looked so bright and new, this year's model on which the paint has not yet had time to fade. I suppose I must have spent ten minutes or more watching him search for the perfect parking place. Then we moved on.

Back in Colombo, after filming the Flamingoes near Hambantota, Valerie and I were discussing the birds we had seen and noting them down on her list. I mentioned the Kingfisher I had watched while she was filming the Weavers. "Just the common, I suppose?" she said. "Oh yes" I replied, "he was a nicely painted little job, darker blue than most but definitely common—I particularly noted that his ear coverts were blue!" When Valerie had recovered from the shock she insisted that I report one Blue-eared Kingfisher at Wirawila on March 6th, 1960. So I have.

A. J. JONES.

Jawatte Road,
Colombo.

Vanishing Wild Life

Sir,

Throughout the world at the present time it is apparent to all who have in mind the fate of the Wild Life which is the heritage of mankind that the birds and animals are doomed to destruction unless—in the words of an editorial in the Bulletin of the International Union for the Conservation of Nature, "man can be persuaded to refrain from destruction".

Not only is there the actual killing by shooting, snaring, trapping and the like, but in many other ways also destruction of wild life proceeds apace. Essential cover is thoughtlessly removed ; the axe is surer than the gun ; wire fences take the place of valuable hedges ; toxic sprays cause immense damage to both animal and insect life, and in other directions also wild life most

grievously suffers. It would seem, therefore, that the wild life of the world in all its aspects is proceeding to eventual extermination.

Thoughtful people may well consider whether this is the design of the Architect of the universe !

In the December 1959 Number of the Journal of Ceylon Wild Life (Vol. VIII, No. 4) the contribution "Poacher's Paradise" does indeed present a most shocking picture to its readers.

What sort of government has Ceylon that such a state of affairs can arise and proceed unhindered ?

Besides these lamentable doings there is the criminal lunacy of under-water dynamiting which is rapidly turning some of the prolific coastal seas of the island of Ceylon into a desert.

Most truly is it said, "Man is the Enemy of Mankind. Man is the Great Destroyer."

R. W. BURTON.

C/o Lloyds Bank Ltd.,
39, Piccadilly W.I.

Songs the Sirens Sang

Sir,

With reference to my article on dugongs, I am sending you a most interesting paragraph I came across in an article by Professor A. J. Marshall on "Fishes like birds" which appeared in *The Listener* of April 28, 1960. It reads thus :

"Since the development of elaborate hydrophonic apparatus during the last war, parts of the oceans have been found to resound with grunts, groans, rasps, squeaks and clicks. Many of these may serve as reproduction, as well as flocking, stimuli. One is irresistibly reminded of the whistling songs of the sirens. Scientists many years ago shattered our illusions by insisting that this has nothing to do with mermaids (nor even dugongs or manatees) and that the sounds are emitted by fishes of the genus *Sciaena*. It will be just one more illusion lost if we are next told that the song is not that of the sirens

calling to the chaps, but in fact, the chaps calling up the sirens."

Perhaps we shall soon know whether our own

dugongs sing any songs or are only sung to and by whom!

2 Melbourne Avenue,
Colombo 4.

HILARY CRUSZ.

A KITTEN

*She has the leopard in her blood
And moves with his exotic grace
But years of domesticity
Have pacified her race.*

*Only the tremor in her fur
And undulating eyes proclaim
Nature is not subdued in her
Nor every instinct tame.*

JEAN KENWARD

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Will all members please note that as from 1st September, 1960, the Hony. Secretary is going on transfer, and his address will be as under:—

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	Rs.	Cts.	Rs.	Cts.
Customs Duty on Ties and Car Badges			366	33
<i>Salaries:</i> Clerk	1,000	00		
Watchers	750	00		
Cost of Christmas Cards			1,675	00
Postage, Telegrams and Telephone :—				
1958/59	233	64		
Postage on "Loris"	139	08		
" on Elephant Survey Report	63	03		
Hony. Secretary's and President's	317	54		
Printing and Stationery			753	29
Bank Commission and Contingencies :—				
Bank Commission	78	90		
Annual General Meeting Expenses	85	00		
G. Coombe's Presentation Clock	175	00		
Cost of Reprints	18	05		
Printing "Loris"			2,452	00
Annual Reports, Circulars, etc. :—				
Report of the Commission on Wild Life Preservation	95	10		
Printing Annual Report and Accounts	566	95		
" Elephant Survey Reports	1,491	25		
Cost of Addressing Wrappers			102	50
Stocks used			720	00
			2,153	30
			356	95
			245	74
			753	29
			1,675	00
			1,750	00
			366	33
Subscriptions :—				
Current Year Ordinary			5,300	00
Overseas			275	10
Corporate			125	00
Junior			65	00
Back Year, 1958/59			435	00
Back Year, 1956/57 and 1957/58			194	57
Donations			300	45
Sales :—				
Car Badges			255	00
Ties			137	50
"Loris" (Back Numbers)			43	00
Calendars and Exhibition Issue			9	00
Miscellaneous Income			20	00
Sale of Christmas Cards			1,167	40
Excess of Expenditure over Income transferred to Fund Account as per Balance Sheet			2,248	09
			6,394	67
			300	45
			444	50
			20	00
			1,167	40
			2,248	09
			10,575	11
			10,575	11

WILD LIFE PROTECTION SOCIETY OF CEYLON

BALANCE SHEET AS AT 31st MARCH, 1960

	Rs.	Cts.
Fund Account		
As per Balance Sheet, 30th September, 1959	16,676	93
Less Excess of Expenditure over Income for the half-year as per Income and Expenditure ..	2,248	09
	14,428	84
Cash at Bank and in Hand		
At Mercantile Bank of India ..	3,237	34
In hand with Secretary ..	350	00
In hand with President ..	142	50
	3,729	84
Equipment—At cost		180
		00
Stocks		
Back Numbers of 'Loris', Film Strips and Old Calendars as certified by the Hony. Secretary and Treasurer ..	10,519	00
	14,428	84
	14,428	84

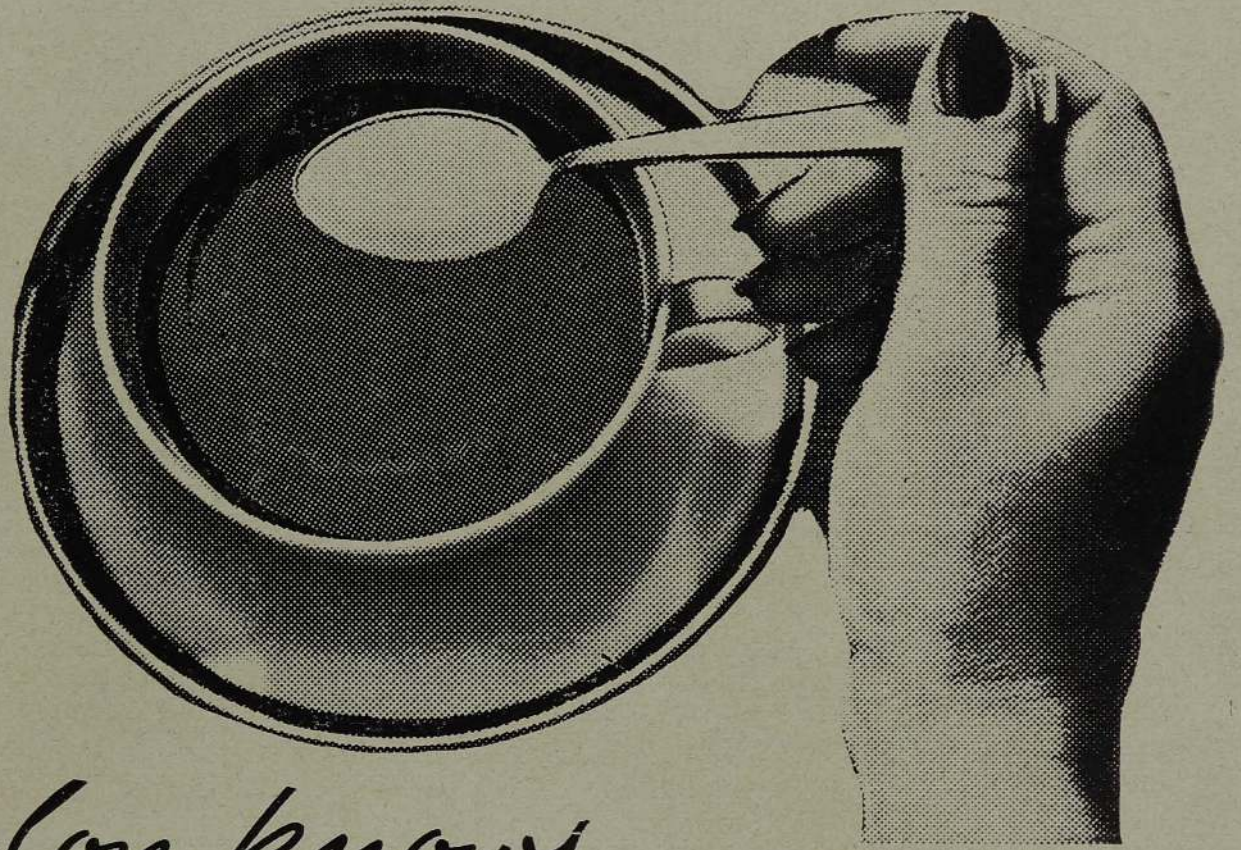
I have examined the foregoing Balance Sheet and Income and Expenditure Accounts with the books of account and available vouchers and have obtained all the information and explanations I have required.

Subject to my letter of this date, I am of opinion that such Balance Sheet and Income and Expenditure Account are drawn up to exhibit a true and correct view of the state of affairs of the Society as at 31st March, 1960, according to the best of my information and explanations given to me and as shown by the books of the Society.

NOEL DE COSTA,
Chartered Accountant,
Hony. Auditor, W.L.P.S. of Ceylon.

J. MANSERGH HODGSON,
Honorary Treasurer,
W.L.P.S. of Ceylon.

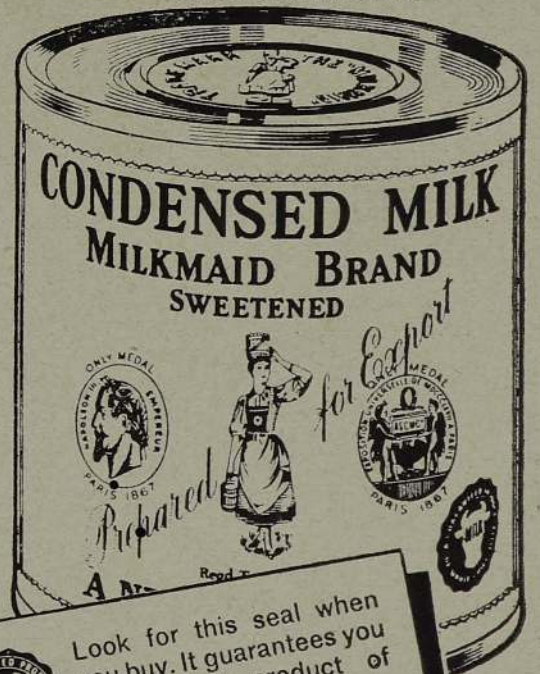
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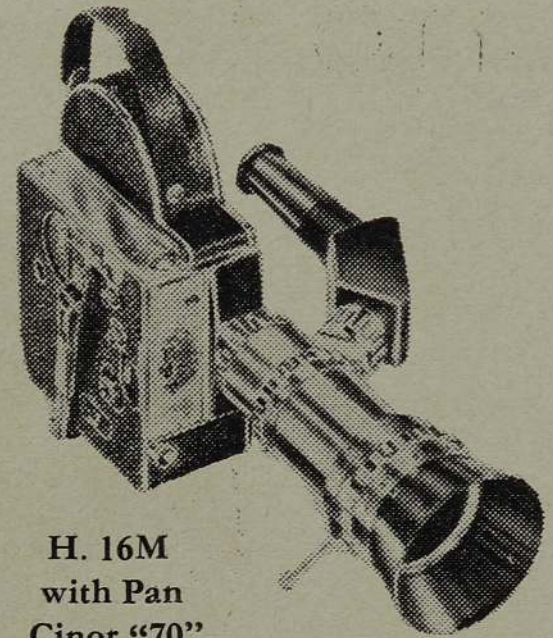
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BACK "ALIVE"?

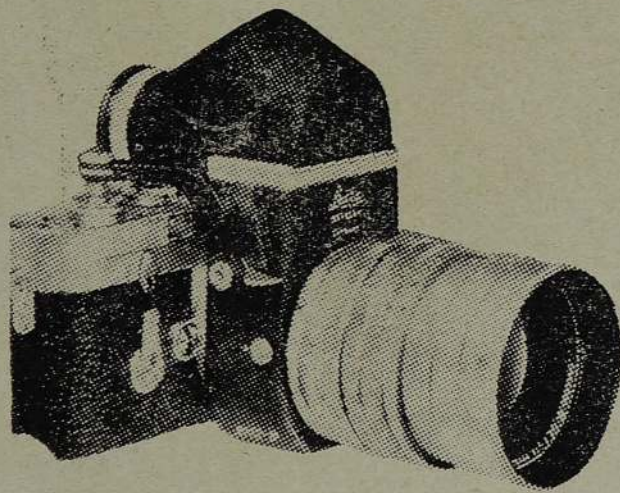
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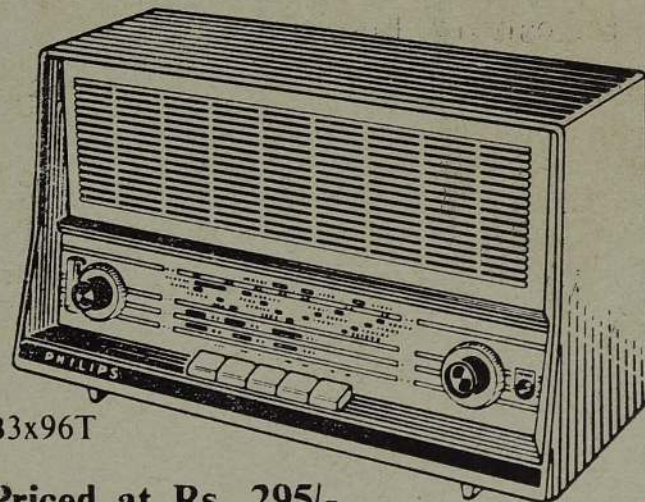
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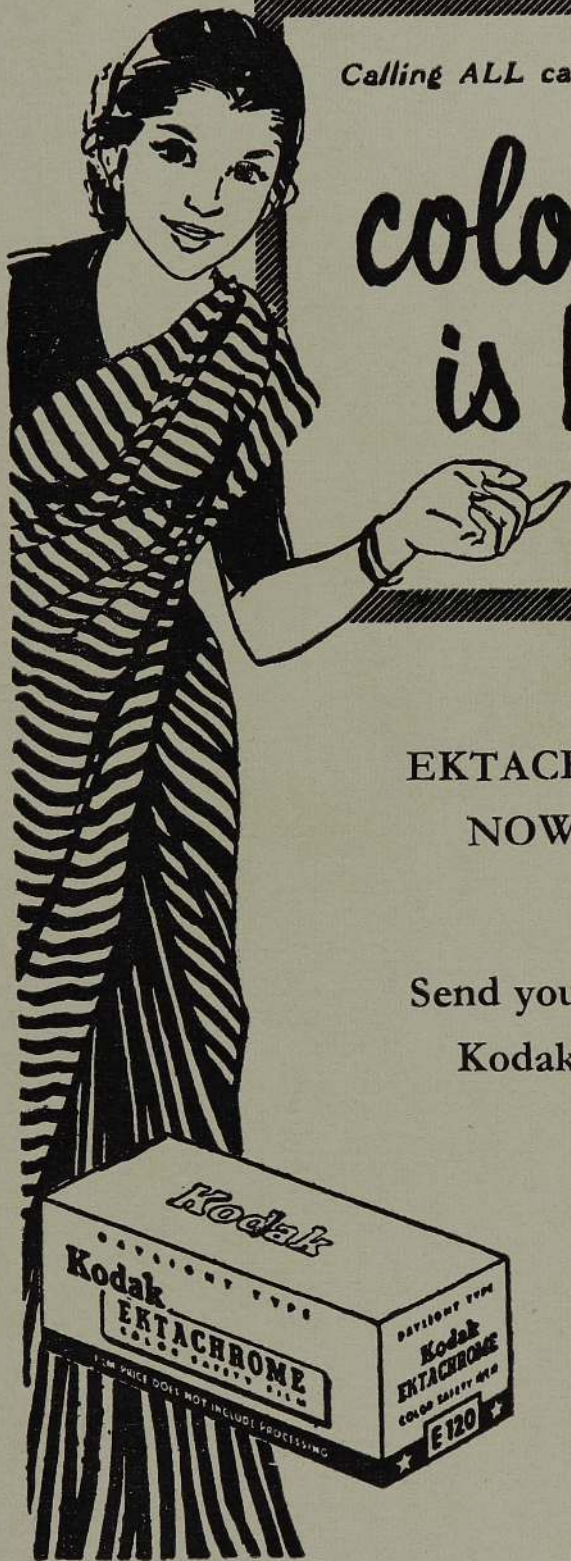
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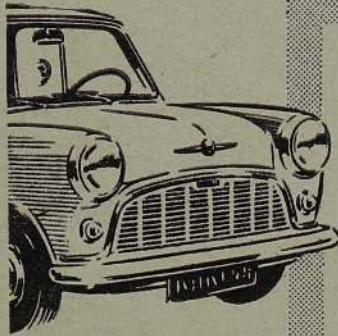
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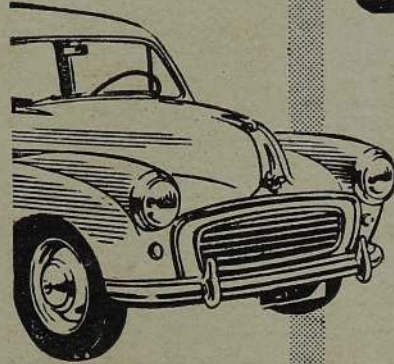
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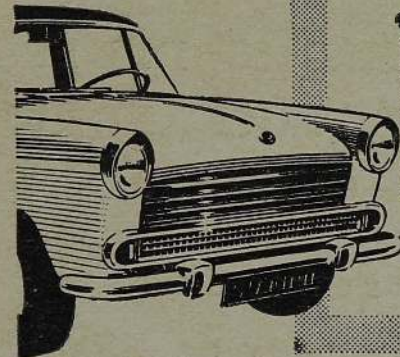
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