

Since birds are being ringed over the world, and since some travel great distances, anyone may be fortunate enough to find or meet someone who has found a ringed bird. Members of the Nature Society may be sought out by one who has found a ringed bird since their interest in nature is well known. This gives the naturalist an opportunity to explain the reasons for bird ringing and to discuss the values of birds. The ring should be sent to the address given on it, or the number carefully copied from it, along with the name of the person finding the ring, his address, and the date and place where the ring was found. It is not necessary that the bird species be known or given, for the sender will be notified what the species was, where and when it was ringed and by whom. In turn the person who ringed the bird will be notified so he can know of its fate.

Recently the writer received an envelope with a flattened bird ring inside of it. No information accompanied it and the sender even neglected to write a return address on the envelope. It is a pity, since nothing can be learned from this. The ring is a private one used by bird fanciers, so cannot be traced unless the sender could be contacted for further information. Besides lack of information another common error in returning rings is to place them in an envelope with no protection. This results in the envelope arriving at its destination empty with a small hole at one corner where the ring has worn through. A ring should be flattened, taped to a piece of heavy paper, and mailed with adequate information so that the record may not be lost. Usually less than two per cent of ringed birds are ever heard from again, so each recovered ring is very valuable, adding a little more to our knowledge of birds and their movements, and indirectly to the cause of conservation.

Reference

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RHINOCEROS IN MALAYA AND THEIR FUTURE

By

G. T. C. METCALFE

Of the five species of rhinoceros found in the world today two, the Javan or Lesser One-horned Rhinoceros (*Rhinoceros sondaicus*) and the Sumatran Rhinoceros (*Didermoceros sumatrensis*), are, or have been, found in Malaya. The latter still exists in limited numbers, scattered throughout the country, but although it is hoped to find a few of the former still surviving there is no definite evidence so far that they do.

Description

As lack of space prevents full description of all five species, the different characteristics of these animals are compared in Table 1. Both Malayan species are dealt with in greater detail below.

Javan Rhinoceros. The Javan Rhinoceros is larger — five and a half feet at the shoulder has been recorded — than the Sumatran Rhinoceros and cannot easily be mistaken for that species. It only has a single horn compared with two in the latter, though in females this is usually lacking and if present is so small as to be hardly noticeable. The skin which is mosaic-like — similar to that of a crocodile — is brownish grey in colour and hangs in heavy folds on the neck, shoulders and hindquarters. There is a characteristic fold of skin over the neck like a saddle and a fold in front of the shoulder which continues all the way across the back of the neck. Two further folds continue across the back behind the shoulder and in front of the thigh respectively. A further distinctive horizontal fold is found across the thigh and there are heavy folds where the legs emerge from the body. All these folds are distinctive, giving the impression that the animal had been assembled piece by piece, jig-saw fashion.

This animal is known variously to the Malays as *badak tenggiling*, *badak raya*, *badak gajah* and *badak sumbu*, *badak* being the vernacular name for rhinoceros in general though it is also applied to the Malayan Tapir (*Tapirus indicus*).

Sumatran Rhinoceros. The Sumatran rhinoceros is the smallest species of rhino in the world and seldom grows to a height of more than four and a half feet. It is extremely bulky for its size and is two-horned, although the posterior horn especially is usually quite small and not easily noticeable. The skin is rough and granular and there are only three folds, the first being on the neck, the second behind the shoulder and continued across the back and the third just before the

TABLE I—Notes on all five species of Rhinoceros (3)

Scientific Name	Common Name	Number and approximate length of horns	Height at shoulder (approximate)	Distribution
<i>Ceratotherium simus</i>	Square-lipped or White Rhinoceros	Two; anterior up to over 50 inches long	6 ft. (Second largest land animal)	Africa; confined to the Zululand Reserves and small area west of upper Nile
<i>Diceros bicornis</i>	Black or Prehensile-lipped Rhinoceros	Two; anterior up to over 50 inches long	6 ft. (Third largest land animal)	Africa
<i>Rhinoceros unicornis</i>	Great Indian Rhinoceros, Indian Rhinoceros or Great One-horned Rhinoceros	One; up to 24 inches long, average 10 inches	6 ft.	India and Nepal
<i>Rhinoceros sondaicus</i>	Javan or Lesser One-horned Rhinoceros	One; about 10 inches long. Horn of female is either totally lacking or extremely small	5½ ft.	Java and Malaya (?)
<i>Didymoceros sumatrensis</i>	Sumatran Rhinoceros	Two; anterior up to 32 inches long but average usually about 10 inches, posterior horn small	4½ ft.	Burma, Thailand, Malaya, Sumatra, Borneo, Cambodia, Laos and Vietnam

hindquarters. This rhinoceros is more hairy than any of the other species and has been described as being light buff in colour with the tail, the outside of the legs and flanks black and the underparts and lip a pinky flesh colour. From the writer's own observations and those of others who have seen the animal in the wild, the body colour appears to be an overall dirty grey though naturally it is much determined by the mud of the animal's most recent wallow.

There are two vernacular names for this rhinoceros, *badak kerbau*, and *badak himpit*, both of which are widely used, although generally it is just referred to as *badak*. The anterior horn is called *sumbu* in Malay and the posterior *tudong periok* (literally 'cooking pot lid'). Although the horns of dead animals all appear the same in colour, those of living animals are called *sumbu lilin*, *s. api*, *s. nila*, or *s. hitam* meaning wax, flame, blue or black coloured respectively, probably because of their appearance in the half-light of the jungle.

Distribution and Status

Javan Rhinoceros. This species has never been numerous in Malaya, at least not during historic times, and it has never been known to occur to the east of Malaya's main range. During the last two centuries it has only been recorded from the States of Selangor, Perak and Province Wellesley, although the last known record from the latter is of a cow and calf killed one hundred and forty-five years ago, Locke, in 1937, estimated that there were perhaps six Javan rhinos left in Malaya (2). He placed four of these in Perak and two in Selangor. Today it is extremely doubtful if there are any Javan rhinos in the country although sporadic reports of large single-horned animals being seen and tracks measuring over nine inches across being found in south Perak and north Selangor give hope that there may still be a few survivors.

Sumatran Rhinoceros. This species was formerly found throughout the country with the possible exception of the island of Penang. Today scattered remnants are still to be found in all States except Negri Sembilan, Malacca, Province Wellesley and Perlis, and from all information gathered during the last few years, it appears that there now remain in Malaya only about fifty Sumatran rhinos distributed as follows: Johore 10, Kedah 4, Kelantan 5, Pahang 10, Perak 10, Selangor 6 and Trengganu 5. It must be appreciated, however, that it is only a very approximate estimate and the number in fact may be as few as thirty or as many as seventy or more, with the odds on the lower figure.

Persistent persecution of this rhinoceros in the past has driven it into the most inaccessible, uninhabited and usually hilly tracts, with the result that it is extremely difficult to obtain accurate information as to its whereabouts. Serious poaching, however, has now almost died out in Malaya although there are still a few unfortunate incidents of animals being killed or caught — three are on record during the last fourteen years — and a few may have perished at the hands of the Communist Terrorists during the Emergency. On the whole, though, the remaining rhinoceros in the country should survive for many years to come if given a reasonable chance to do so, but this will entail the establishment of conservation methods somewhat different from those practised today.

It has long been necessary for someone to carry out a determined investigation of the rhinos in Malaya, for the Game Department has neither the staff nor the time to devote to this most urgent problem. This need has now been filled by the recent arrival of Mr. Oliver Milton who is currently engaged on a rhinoceros survey. The results of his investigations are eagerly awaited.

Economic Value

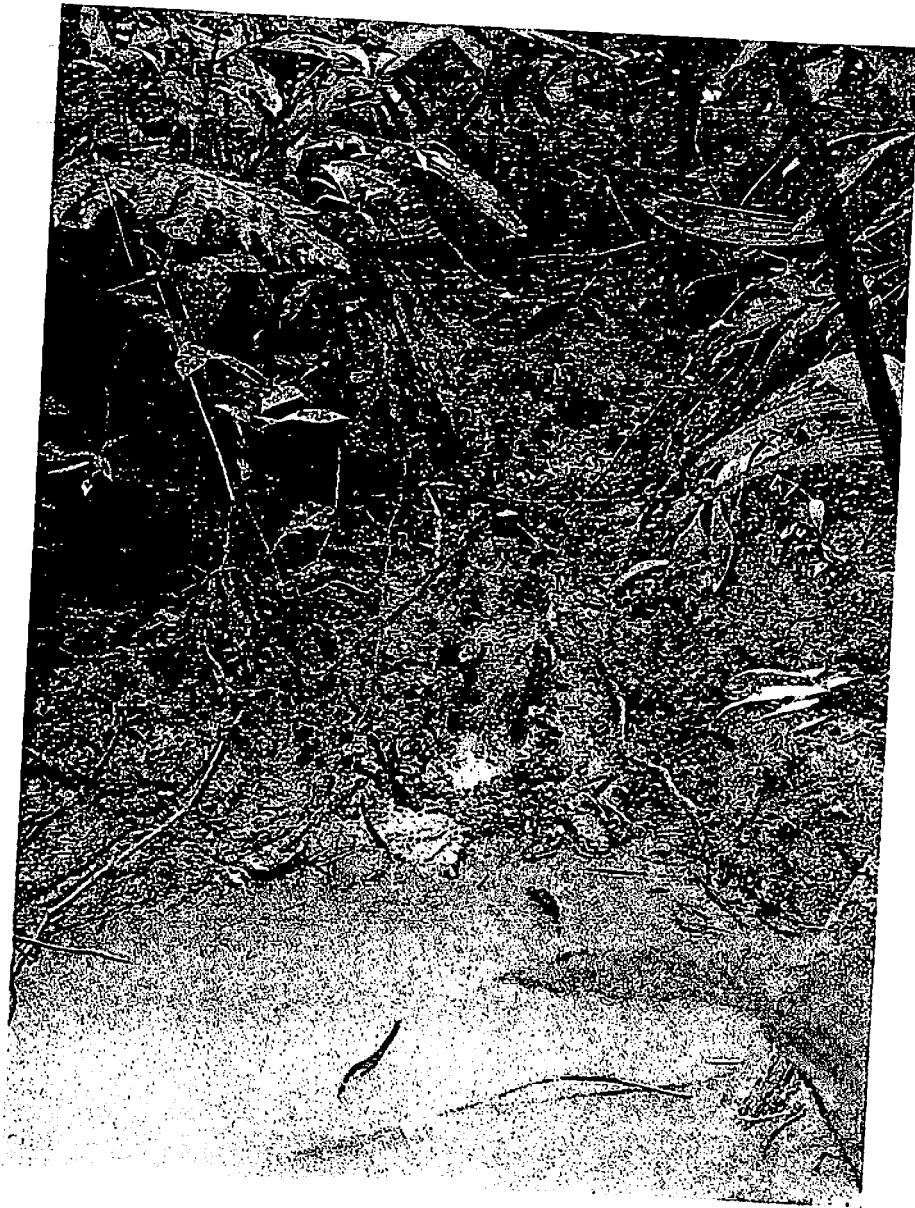
A belief has existed for generations amongst most of the peoples of Asia that all parts of a rhinoceros possess great medicinal value. So strong is this belief that to this day any part of a rhinoceros, but particularly the horn, commands a very high price. The current market value of horn from any species of Asiatic rhinoceros is \$250/- per tahl. The extreme shortage of the genuine article nowadays has even led to the introduction on the market of imitation horns, usually made from buffalo horn. These imitations, many of which are so cleverly carved as to be undetectable except by detailed scientific tests, enter Malaya through Singapore although it is likely that they originate in India. Sold by unscrupulous dealers (usually travelling medicine men), these imitations pass off as the genuine article.

The supposed medicinal value, however, of any part of a rhinoceros is yet to be substantiated and a number of other beliefs relating to the value of the horn as an aphrodisiac and to its nullying effect upon poisons are entirely erroneous. However, whatever the beliefs and whatever the uses of rhinoceros horn, the undisputed fact remains that it is because of the very great demand for and the resultant high value of the horn that these unique beasts are in danger of being exterminated. No rhinoceros is safe as long as these beliefs persist and their complete discredit, through education, seems to be one of the primary steps towards ensuring the continued survival of the species.



P. Bazin (c. Straits Times Press (M) Ltd.)
A young Sumatran Rhinoceros on Lima Belas Estate (North Selangor)
1957.





Footprints of a rhinoceros leaving its wallow.

J. A. Hislop

Ecology

Habitat. The present habitat of the Sumatran Rhinoceros, namely in the inaccessible, densely forested mountain ranges is, the writer considers, one that has been forced upon it by insistent poaching in the past and by the natural advance of civilisation. There are various facts to support this belief and it would seem that those animals found in the Bernam Swamp area of Selangor and another similar area in Johore may be living in their true habitat. The ability of the Sumatran Rhinoceros to adapt itself to almost any type of country has obviously already played an important part in its continued existence and could play an even more vital part in years to come since no particular type of habitat for a Reserve or Sanctuary appears to be essential.

With five exceptions, two of which are doubtful, every known occurrence of the Javan Rhinoceros in Malaya has been in the lowlying and swampy area in the extreme south of Perak and north of Selangor. The true habitat of this species then, in Malaya at least, seems to be low-lying, swampy land with a preference for coastal swamp. It may well be that this obvious preference for coastal swamp has been the main deciding factor in the animal's failure to penetrate further inland from the west coast.

Habits. Little is known of the habits of the Javan Rhinoceros but from what records there are it would appear that they differ little from those of the commoner Sumatran Rhinoceros, to which the following comments refer.

It is an animal of methodical habits and usually feeds during the night although they have been observed in the late evening and early morning. During the daytime it spends most of its time in wallows of which it has a number. These are usually well concealed and in undisturbed areas are used over a considerable period of time.

In normal circumstances the rhinoceros deposits its dung in definite places and on only one occasion has the writer come across rhino droppings other than at these 'deposits'. The latter have always been found on regular routes and situated in shallow streams or on the edge of a swamp. This is clear proof of the animal's methodical habits, for a deposit of such size has obviously been accumulated over a period of several years.

Salt-licks are frequently visited and evidence of these visits over great periods of time is shown by the clearly defined tracks leading to the licks and the deep ruts which have been cut by the passing of the animals for perhaps generations past. A periodic visit to a salt-lick

is a vital necessity to the health of the rhinoceros and it is here that they most frequently have met their death from the poacher's gun. Most natural salt-licks are already known to humans and an essential in any future conservation programme is the construction of artificial and completely protected licks.

The rhinos found in Malaya are mainly generalised browsers but they also feed on such wild fruits as come their way and occasionally graze some grass. E. C. Foenander has recorded the Sumatran Rhinoceros as eating the leaves of *Pternandra* spp. (sial menaung) and *Crotalaria* spp. (gegiling)(1). To these the writer wishes to add those listed in Table 2. On its wanderings for food a rhinoceros covers about three or four miles in one night although on occasion, especially during the season of *Garcinia forbesii*, a relative of the cultivated mangosteen, it will travel much further. The three-toed tracks which might be found at any height from sea-level to over 5,000 ft. cannot be mistaken for those of any other animal. When feeding saplings are pushed down by sheer force and then the leaves and twigs eaten. There is no evidence to support the belief that saplings are twisted down by use of the horn or that the horn is used for grubbing up roots. The fact that it has no connection with the skull bone belies this belief.

Little at all is known of the breeding habits of either the Javan or the Sumatran Rhinoceros and all enquiries have so far failed to reveal any evidence of calves in recent years. This may indicate lack of breeding owing to dispersion and other disturbance and if this is so then the situation is indeed serious and unless drastic steps are taken early the end is not far distant.

Recommended Conservation Measures

Legislation. All States in Malaya have now accepted the Wild Animals and Birds Protection Ordinance (No. 2 of 1955) which provides a penalty of six months' imprisonment or a fine of \$1,000/- or both for shooting, killing, taking or wounding any rhinoceros for any purpose whatsoever. However, it is questionable if this is an adequate deterrent to a determined poacher in view of the prevailing fantastically high prices for the horn and other parts; in particular, the option of a fine is a weakness. Moreover, this Ordinance leaves a loophole in that 'totally protected' animals, such as the rhinoceros, may be killed in defence of life or property. Unprovoked a rhinoceros will not endanger humans or damage their cultivations and consideration might therefore be given to making the protection of such animals absolute, with provision that only the Game Department could destroy proven dangerous rogues.

TABLE 2—Food plants of *Didemnoceros sumatrensis*

Scientific Name	Common Name	Vernacular Name	
<i>Artocarpus elasticus</i>	<i>Terap</i>	Tempunai, Tempuni, Gins (Perak), Jelatoh (Kedah), Perian (Pahang)	Leaves
<i>Artocarpus rigidus</i>	Monkey Jack		Fruits
<i>Chrysophyllum</i> sp.	Star apple, Caimito	Lampin Budak, Lamping Budak	Fruits
<i>Claoxylon indicum</i>	—	Salang, Sanglong	Leaves
<i>Claoxylon longifolium</i>	—		Leaves
<i>Dissochaeta gracilis</i>	—		Leaves
<i>Endospermum malaccense</i>	Moon tree	Bulan Bulan, Bebulan, Membulan, Sendok, Sendok Sendok, Sesendok	Leaves
<i>Evodia pilulifera</i>	—		Leaves
<i>Ficus alba</i>	White-leaved Fig	Ara	Leaves
<i>Ficus aurata</i>	—	Ara	Leaves
<i>Ficus bengalensis</i>	Indian Banyan	Ara	Leaves
<i>Ficus fistulosa</i>	Common Yellow Stem-fig	Ara	Leaves
<i>Ficus glandulifera</i>	Gaping Fig	Ara	Leaves
<i>Flacourtia indica</i>	Lesser <i>Krekup</i>	Krekup	Leaves
<i>Garcinia eugeniaefolia</i>	—	Kandis	Leaves
<i>Garcinia forbesii</i>	Rose-Kandis	Kandis	Fruits
<i>Macaranga</i> spp.	<i>Mahang</i>	Mahang, Meseapat, Melokan, Kubin, Tapu, Setapu, Mehe	Leaves
<i>Mallotus paniculatus</i>	Turn-in-the-Wind	Balck Angin	Leaves
<i>Mezettia leptopoda</i>	—	Mempisang, Pisang-pisang	Fruits
<i>Milletia sericea</i>	—		Leaves
<i>Mussaenda villosa</i>	—		Leaves
<i>Pouteria mangayi</i>	—		Fruits
<i>Symplocos fasciculata</i>	—		Leaves
<i>Zizyphus calophylla</i>	Alum Tree	Menasi, Nasi Nasi, Nenasi	Fruits
			Leaves

i. Taken from 'Wayside trees of Malaya' by E. J. H. Corner: Government Printer, Singapore, 1952 (2nd Edition).

Since the destruction of the rapidly declining rhinoceros population is entirely to obtain parts for their supposed medicinal properties, a ban on the import, export and possession of all rhinoceros parts, especially the horn, which cannot be positively identified and proved to be covered by a specific certificate from the Game Department (or its equivalent) in the country of origin, would do much to stop the illegal killing of animals, not only in Malaya but elsewhere. Provision could also be made for a more positive method of registration of all existing material than is now employed. Strong measures of this nature are essential if the rhinoceros is to be saved from its present position of near extinction.

Education. For any law to be fully effective it is essential that the reason for its existence is clearly understood and thoroughly appreciated by the people most directly concerned. Failure to understand leads to resentment and a law which is resented by the public can never fulfil its intended purpose. Unfortunately the Game Laws in Malaya are little understood by the general public any more than is the need for preservation of the rhinoceros. It is, therefore, essential that steps should be taken at an early date to bring home to the people the precarious position of the rhinoceros, with special emphasis being paid to the cause of its plight—the mythical medicinal properties with which it is credited.

A possible way to do this is by means of a country wide publicity campaign through such media as cinema screens, loud-speaker vans, newspapers, posters the radio, lectures, pictorial stamps and postal franks. Public interest once aroused should be maintained and this could be done by published progress reports of wild life surveys conducted by the Game Department and others.

Reserves. Very few rhinoceros in Malaya are found within the confines of the existing Game Reserves, but whether or not they have been any the worse off because of this is very doubtful for none of these reserves, with the exception of the National Park, have any resident staff and unfortunately in none of them is effective control possible because of shortage of staff. However with the rapid advance of civilisation and its attendant encroachment upon many of the last remaining haunts of our rhinoceros population, it is imperative that a few new reserves are created at an early date. It is essential though that reserves for threatened species be extensive — more than sufficient to allow for the free normal movement of the animals — and adequately staffed to afford effective protection. It is equally essential that as many as possible of the dwindling and isolated rhinoceros population, usually in numbers inadequate to breed, be captured and then released in the National Park

or other Game Reserve. This would serve the dual purpose of better ensuring their survival from poachers and at the same time considerably enhance their chances of breeding. A pre-requisite of this is an immediate detailed ecological survey of the rhinoceros on a country wide basis.

There are problems to be surmounted, but these should not be impossible if all will support these efforts to save, for the benefit of future generations, some of the most harmless but distinctive of our wild life.

Acknowledgement

The writer would like to express his grateful thanks to all those persons who have answered his various appeals for information.

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