IX.—THE SHWE-U-DAUNG GAME SANCTUARY, UPPER BURMA, WITH A NOTE ON THE ASIATIC TWO-HORNED RHINOCEROS (R. SUMATRENSIS).

(With a plate.)

I enclose some notes and photographs taken by me during a fortnight's tour in the Shwe-u-daung Game Sanctuary in Upper Burma. They may be of interest to readers of the Society's Journal.

The Sanctuary extends over 126 square miles; 75 per cent of which is heavily afforested. The more elevated portions of the Sanctuary assume the form of a high watershed which stretches for about 10 miles at altitudes varying from 4,000 ft. to 6,223 ft. on the Shwe-u-daung peak. The main peaks, the ridge, and most of the high spurs leading from it are partly or altogether bare of tree growth over considerable areas. They are covered by a coarse grass which is from 1 to 3 feet high on the higher slopes; but this gives way to very high kaing grass in depressions and on the borders of the forests which clothe all the lower portions of the Sanctuary. The climate on the main ridge is cold and bracing, and with the exception of a few blood-blister flies most of the insect pests found lower down are absent.

The three main peaks; Shwe-u-daung, Nanmadawgyi, and Nanmadawgalay are popularly supposed to be the abode of certain *Nats* (spirits,) which are held in some reverence by the Shan villagers near the Sanctuary, and serve most opportunely to preserve the sanctity of this stronghold of wild game. It is an area the high ground of which is eminently suited to be a National Park of the future. The transition to this desirable end must be gradual; but it is hoped that it will not be very long before the communications are improved and this area made available as a resort of every lover of nature and wild animals.

All species of animals indigenous to Northern Burma with the exception of Thamin, Goral, and Hog-deer are found within the Sanctuary. Saing (Bibos banteng) are found on the low ground in the western parts of the Sanctuary but do not climb high into the hills. With this exception, all the species may be found in due season on the open grassy slopes on and near the main ridge. During my visit from October 24th to November 6th the grass was too coarse to attract Bison to the main ridge and only one herd of 15 was seen out in the open. Sambhur, however, were plentiful and were on view in the open at all hours of the day in herds of from 3 to 10 individuals. They are not shy; but being unaccustomed to the sight of human beings desert the open ground for a few days after seeing men. This fault can be easily set right during the transition stage between a Sanctuary and a National Park. In March to May the numbers of animals on view would be far greater.

Experience in other countries has shown that in order to persuade wild animals to remain on view in the open, they must be made accustomed to the sight of men. In my experience in the Sanctuary, areas in which animals were seen on the first day were deserted on the next, and this is bound to be the case in an altogether secluded area. The regular patrolling of the Sanctuary by reliable keepers and the gradual construction of paths and buildings will, far from disturbing the game, make them indifferent to the sight of men.

Heavy mists are the rule at high elevations within the Sanctuary during the rains and the early part of the cold weather. During more than half my time in the Sanctuary photography was at a discount owing to mists and some rain. During the dry season however and especially in March, April and May, the Sanctuary would be a paradise to the keen photographer of wild animals.

One tiger was seen right out in the open. They are splendid creatures; but disturb the deer on the main ridge and should be destroyed.

In addition to a large number of sambhur, I saw within a fortnight three rhinoceros, one solitary bison, one herd of fifteen bison, one tiger, one elephant, one barking deer and six pigs.

The accompanying photograph is of a male Two-horned Rhinoceros (Rhinoceros sumatrensis), shot within the Sanctuary under the direction of the Local Government for museum purposes on the 27th October, 1930. The skin and skeleton have been presented to the British Museum for mounting.

The destruction of this animal is less to be deplored than might be apparent, as there are fully ten other rhinoceros living in the Sanctuary under conditions ideal for their continued existence and increase. The specimen depicted measured between pegs 9 ft. 5 ins. in length and 4 ft. 5 ins. in height: an average male with much rubbed and worn horns of which the front horn is 7 ins. in length along the curve from base to tip.

R. sumatrensis spends most of its time in the heaviest forest it can find and only occasionally climbs onto the open grass-clad ridges and spurs which are a feature of the Sanctuary at elevations above 4000 feet.

There is still some hope that a specimen or two of the Lesser One-horned Rhinoceros (R. sondaicus), is to be found in the Shwe-udaung Sanctuary. Tracks measuring $8\frac{1}{2}$ ins. in diameter have been seen which correspond nearly to those of R. sondaicus in Mergui and Thaton in southernmost Burma. The tracks of the specimen of R. sumatrensis shot in this Sanctuary were a shade less than 8 ins., and I am afraid the animal responsible for the larger tracks will be found to be merely a larger specimen of the same species.

There appears to be no marked variation either in structure or habits between the specimen shot in the Shwe-u-daung Sanctuary and a couple of others shot by me about 8 years ago in the angle between the Uyu and Chindwin rivers. One of the latter was, however, a foot longer and 4 inches higher than the former.

Rhinoceros sumatrensis wander generally in pairs, and a former

experience was duplicated in that the mate returned to the body of the one killed a few minutes after the shooting, and had to be driven off by a shot fired over her head. They appear to have a fair share of the pugnacity attributed to their African relatives, and are not the kind of animal one would care to meet at very close quarters when unarmed.

The Rhinoceros in the Sanctuary conform to the practices common to the species of making sometimes quite large collections of their droppings; wallowing frequently in liquid mud, and breaking down and twisting small saplings along the routes favoured by them. On one occasion I saw a small sapling that had, in some amazing manner, been twisted into a simple knot.

The protection afforded to the Sanctuary has taken the form of legislative rather than practical measures. There are no Game Keepers, unless one includes in this meaning the monthly visit of one or two foresters; no roads and no buildings. No signs of poaching were noticed either on the ridge or the lower ground at the wallows and licks. When one considers that a Rhinoceros is worth to the average poacher at least from 20 to 40 times his monthly income, the comparatively large number of Rhinoceros existing in the Sanctuary is a very great tribute to the law-abiding nature of the population surrounding the Sanctuary.

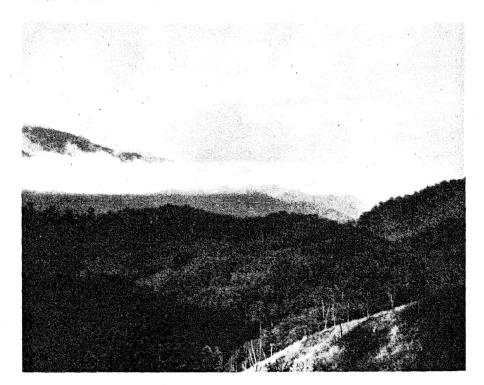
MAYMYO, February 15, 1931.

E. H. PEACOCK.

X.—BIRD MIGRATION NOTES FROM PORT BLAIR.

I have only very recently had access to Stuart Baker's completed edition of the *Birds of British India* and find that information is still required on many points to do with not only the rarer but even the common birds of the Andamaus and Nicobars. I already knew that both the British Museum and the Bombay Natural History Society require skins of almost all birds from this region. I am myself leaving Port Blair before long but hope to find some resident here who will take up local ornithology and supply what is needed in the way of material as well as of information.

The Koel appears to be an immigrant. Which race have we got and what is its line of entry? In Port Blair, the Koel is first heard (but seldom seen) about October 7th, when he gives out short and timid notes about dusk as though to enquire whether any of his friends have also arrived and are lurking about. By December he and his wife are noisy and assertive. They seem to disappear in March. I have frequently visited the Nicobars in the second half of September and have found the Koel there well established as far as noise and bustle go. Is the line of migration through the Nicobars to the Andamans and if so is our race malayana? A comparison of female skins would settle the point. I have in much wandering only seen one male Koel after April. Perhaps it was a young bird without the migratory feeling. Every South-West monsoon there are a few Curlew, Whimbrel and



THE SHWE-U-DAUNG GAME SANCTUARY.



THE ASIATIC TWO-HORNED RHINOCEROS (R. summatrensis), SHOT IN THE SANCTUARY.